



TWENTY-NINTH ANNUAL REPORT

ON THE

New York State Museum of Natural History

BY THE

REGENTS OF THE UNIVERSITY

OF THE

STATE OF NEW YORK.

TRANSMITTED TO THE LEGISLATURE APRIL 17, 1876.

JEROME B. PARMENTER, STATE PRINTER.
1878.

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New York State Museum of Natural History

State Museum of Natural History, Albany, N. Y.

With the compliments of

James C. Alt.

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REGENTS OF THE UNIVERSITY.

[EX OFFICIO TRUSTEES OF THE STATE MUSEUM OF NATURAL HISTORY.]

JOHN V. L. PRUYN, LL.D., CHANCELLOR.

ERASTUS C. BENEDICT, LL.D., VICE-CHANCELLOR.

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THE GOVERNOR.

Mr. BREVOORT.

THE SUPT. OF PUB. INSTRUCTION.

Mr. PIERSON.

Mr. CLINTON.

Mr. PERKINS.

Mr. RANKIN.

Director of the Museum.

JAMES HALL, LL.D.

Assistants in the Museum.

J. A. LINTNER, GENERAL ASSISTANT.

JAMES W. HALL, IN ZOOLOGY.

Botanist.

CHARLES H. PECK.

Taxidermist.

JAMES A. HURST.

STATE OF NEW YORK.

No. 64.

I N S E N A T E ,

April 18, 1876.

TWENTY-NINTH ANNUAL REPORT

ON THE

STATE MUSEUM OF NATURAL HISTORY, BY THE
REGENTS OF THE UNIVERSITY OF THE STATE OF
NEW YORK.

UNIVERSITY OF THE STATE OF NEW YORK : }
OFFICE OF THE REGENTS, }
ALBANY, *April 17, 1876.* }

To the Hon. WILLIAM DORSHEIMER, *President of the Senate :*

SIR—I have the honor to transmit the Twenty-ninth Annual Report on the State Museum of Natural History, by the Regents of the University.

I remain, very respectfully,

Your obedient servant,

JOHN V. L. PRUYN,

Chancellor of the University.

R E P O R T .

To the Honorable the Legislature of the State of New York :

The Regents of the University, as Trustees of the State Museum of Natural History, respectfully submit this their twenty-ninth Annual Report.

The condition of the Museum and the work of the last year are exhibited in the reports of the Director and of the Botanist, hereto appended.

Respectfully submitted in behalf of the Regents.

JOHN V. L. PRUYN,

Chancellor of the University.

S. B. WOOLWORTH,

Secretary.

Dated *March 14*, 1876.

R E P O R T

ON THE

STATE MUSEUM OF NATURAL HISTORY.

1876.

REPORT OF THE DIRECTOR.

ALBANY, *January*, 1876.

To the Honorable the Board of Regents of the University of the State of New York :

GENTLEMEN.—I have the honor to present to you the Annual Report upon the State Museum of Natural History, embracing a statement of the condition of the collections in the Museum, the additions made thereto by donations or otherwise, and the work done in the institution during the past year.

I am able to say that the collections in the several departments of the Museum are in good order and condition, and nearly all are satisfactorily arranged, as shown in the following detailed statement regarding each department. The want of space in every direction is becoming more apparent year by year, and the accumulation of specimens which cannot be placed on exhibition is rapidly increasing. This want of room is more especially felt in regard to the collection of New York Palæozoic Fossils which now occupies all the space allotted to it; while we have besides large collections of these for which there are no cases, nor any room to place cases in the present building.

In the Zoölogical Department we have no room to add another large specimen; and the additions made during the past few years have been disposed, often in violation of a strict systematic arrangement.

I have appended a special communication in reference to this department, and of the absolute necessity of providing additional space, if we are to receive the skeleton and skin of a rhinoceros and the skin of a giraffe, which I have considered it my duty to purchase and hold subject to your direction, and which are now in preparation for the Museum.

We have, as heretofore, been indebted to the kindness of Mr. T. L. Harison, Secretary of the State Agricultural Society, for the use of the Agricultural Hall, for the arrangement, labeling and distribution of our duplicate specimens; of which a detailed account will be

given in the report. Owing to the fact that for a considerable portion of the year this hall has been occupied for other purposes on the first day of each week, each of these occasions requiring the removal of the specimens under investigation, has greatly retarded the progress of the work. For some months past, however, we have been going on without interruption.

I consider it my duty to repeat now, what I have so often said before, that the want of proper working rooms, no less than the want of space for arrangement of collections in the public rooms, greatly retards the progress of our work, and prevents, in a greater or less degree, every person connected with the institution from doing as much as he might, or of presenting in a proper manner the results of his labor; and while I am sure that every one is willing and desirous of performing properly his duties, we are hindered from so doing by this condition of things, and the public are denied the satisfaction of seeing the results of these labors in the gradual extension of the Museum collection.

I beg, therefore, to submit for your consideration, that while, on every side, museums of natural history are being built up or greatly extended, the State Museum of New York, after an existence of more than thirty years, has now scarcely more ample accommodations than it had in the beginning, and its conveniences for working rooms are far inferior to what it possessed from 1843 to 1850.

The general work of the Museum, during the past year, may be enumerated under the following heads:

In the Botanical Department, a special report upon the work done will be presented by Mr. Peck.

In the Zoölogical Department there has been an arrangement of the Molluscan collections; the preparation of a list of the New York Mollusca, and the addition of alcoholic specimens. In this department the Museum is very deficient in subjects which might be prepared and added to the cases, were means afforded for making zoölogical collections.

In the Geological and Palæontological Departments, there has been a rearrangement of the Geological series, with additions; a partial rearrangement and relabeling of the Palæontological collection, with additions; also field work and collections made. Enlarged figures of fossils have been prepared, to illustrate the characteristic form of each group, and some of them have been placed above the shelves of the cases.

In the Mineralogical Department there has been a rearrangement and relabeling of the New York collection and of the general collection of minerals; the preparation of mineral collections for distribution, cataloguing and distribution of duplicate collections of fossils and minerals.

A list of the additions and their sources, in each of the departments of the Museum, will be found in detail appended to this report.

ADDITIONS TO THE MUSEUM BY DONATIONS.

In the Zoölogical Department, contributions have been made during the year by thirteen individuals in sixteen distinct donations. The Molluscan contributions of Dr. Lewis, consisting of about 550 specimens, are of great value to the Museum, as nearly all are in unusually fine condition, and among them are a number of rare species.

The Botanical Department has received donations from twenty-two individuals.

To the Geological, Paleontological and Mineralogical collections, donations have been made by sixteen individuals, of one hundred and fifty-five specimens.

To the Archæological Department, three donors have contributed.

The Library has received additions by donation of thirty-five volumes and forty-seven pamphlets, from ten individuals and nine societies or other organizations.

The whole number of donors to the several departments has been seventy-three.

ADDITIONS BY EXCHANGE.

A number of the additions to the Library have doubtless been made in consideration of Museum reports distributed. Only three exchanges proper are recorded, viz., one of geological specimens, one of minerals and one to the Library, in return for Museum reports.

GENERAL WORK OF THE MUSEUM.

Arrangement of Molluscan Collections.

In January last the services of Dr. James Lewis, of Mohawk, were engaged for the much needed work of revision, determination, labeling and cataloguing of the land and fresh-water shells of the United States belonging to the Museum. As stated in a former report, there was a large accumulation of specimens—from the collections made during the geological survey of the State, from the purchase of the Gould collection, and from various contributions—only a small

portion of which had been incorporated with the Museum collections. Dr. Lewis' familiarity with most of the species enabled him to pass this material under his critical review during a few weeks' engagement at the Museum, and it is due to him to say that the work, requiring much experience and discrimination, was satisfactorily accomplished.

The collections consist largely of Unionidæ. Of these, each example has had inscribed on the inner side of one valve the serial number or order given in the "Synopsis of the Family Unionidæ;"* thereby insuring the proper reference, should the specimen become separated from its label. These specimens have been arranged in three collections (catalogues of which are herewith presented), viz. :

1. Unionidæ of the State of New York. All the species credited to the State, with the single exception of *Unio Boydianus* Lea, fifty-two in number, are represented in this collection by from one to fourteen specimens and in 227 examples.

2. Unionidæ of the Gould Collection, consisting of 310 species and five varieties, represented in 1,042 examples. A few only of these are exhibited under glass, where the species is shown in specimens from different localities; otherwise the series, for want of room, is arranged in drawers 43 to 51 of the Gould cabinets. Access to these may at any time be obtained by the student through application at the Director's room.

3. Unionidæ of the General Collection, consisting of 254 species in 1,221 specimens. These are arranged in drawers beneath the New York State Molluscan Collection.

In the above named three collections are contained 382 distinct species of Uniones, showing a very favorable comparison with the principal collections in the country.†

In addition to the above Museum collections of Unionidæ, duplicates in species have been set aside, and are available for exchanges.

There have also been arranged and catalogued by Dr. Lewis, three other collections, viz. :

*By Isaac Lea, LL. D. Fourth edition. Philadelphia, 1870. The Library of the Museum has received a copy of this volume through the kindness of Dr. Lea, at the request of Dr. Lewis.

†The private collection of Dr. Lewis contains 420 species; the collection of the Buffalo Society of Natural History is nearly as large; Dr. Lea's collection has about 500 species; the collection of the Museum of Comparative Zoology at Cambridge is represented to contain 600 species. The entire number of known species, from all parts of the world, as given in the Synopsis of Dr. Lea, is 1,067, of which the larger number occur within the United States.

1. Corbiculadae of the State of New York, seventeen species represented in 227 specimens.

2. Land shells of the State of New York, seventy-six species represented in 1,117 specimens.

3. Land shells of the United States, sixty-two species represented in 512 specimens.

A list of the Mollusca of the State of New York (land, fresh water and marine), drawn from our collections, from the lists of Dr. Lewis, and from other reliable sources, has been nearly completed. This was intended for presentation with the present report, in order that, through its indication of the species in the possession of the Museum, it might serve as an aid in supplying our numerous deficiencies. It is temporarily withheld, to be given in a more complete form.

GEOLOGICAL AND PALEONTOLOGICAL COLLECTIONS.

The labeling of the Paleontological collection has been continued. A large portion (the entire series from the Potsdam Sandstone to the Chemung group), has been reviewed and relabeled in accordance with the present nomenclature. This work had become necessary by the generic changes made since the original descriptions. The original name is retained on the label as a synonym, together with reference to the original description.

A considerable number of specimens have been added to the collections, especially in the Corals of the Upper Helderberg Limestone, and in those of the Coralline Limestone; while a large number of specimens are ready for arrangement.

Several improvements in the condition of the cases have been authorized by the Commissioners of the Land Office, affording facilities for the better arrangement of the specimens.

In the Twenty-fourth report of the State Museum, a list is given of specimens from the Lower Carboniferous Limestone of Burlington, Iowa, and from the Waverly Sandstone of Ohio, which were temporarily arranged in the cases. These specimens have been withdrawn and will be replaced by others of similar character belonging to the State.

MINERALOGICAL COLLECTION.

Heretofore I have communicated to you the condition of the Museum Collection of Minerals. With the approval of the Regents the Collection has been submitted to the examination and revision of

Professor Albert H. Chester of Hamilton College. The labels of Prof. Chester have been copied upon cards. The original labels, which had become discolored by long exposure, have been laid aside, to serve for future reference should it become necessary; their number recorded on the new card label, and also attached to the specimen, and the collection replaced and rearranged upon the shelves by Mr. Charles Sheldon, a volunteer assistant in the Museum.

About two years ago, a commencement was made in the arrangement of a general collection of Minerals — partly by selecting from the New York State collection such extra-limital species as had become incorporated with it, and partly by adding New York specimens proper, which had accumulated in the Museum. By this course we were able to conform the collection to the original plan of Dr. Lewis C. Beck, the mineralogist of the New York Geological Survey, and to present in a classified series the minerals of the State of New York. This work was begun and carried out under my direction, so far as our material then permitted, by Mr. Calloway while acting as special assistant. It was then suspended until we had an opportunity of selecting from the Simms and the Gebhard collections, purchased by the State, and from the Van Rensselaer collection, which had been presented to the Museum. The mineralogical portion of the three collections above named, viz., the Simms collection, purchased in 1870; the Gebhard collection, purchased in 1871, and the Van Rensselaer collection, donated in 1872; have occupied us for the last few months. The labeling will soon be completed.

Among the Simms' minerals (about 500 specimens altogether) are a number of calcites, and gold, silver and other ores from the western Territories, which are of value for the general collection. The Gebhard minerals (nearly 1,800 specimens) include many valuable foreign examples, the larger number of which have been selected for the general Museum collection, or reserved for exchanges. The Van Rensselaer collection, including a number of fossils mostly of the more modern geological formations, consists of nearly 5,000 specimens. The value of this contribution is seriously impaired by the entire absence of indication of localities. It affords, nevertheless, many fine examples of minerals for our General collection, and will furnish numerous duplicates for distribution to the colleges and normal schools of the State.

All the above minerals have been ticketed with the name of their collector as a record of their source. Upon the completion of their

labeling, the portion reserved for the Museum will be arranged upon the shelves; the portion intended for exchanges will be placed in drawers or in labeled boxes; the remainder will be distributed among the duplicate collections now being made up, or set aside for such object as may hereafter be directed by the Regents.

DISTRIBUTION OF DUPLICATE FOSSILS AND MINERALS.

The distribution of duplicate specimens belonging to the Museum has been directed, by legislative enactments, to five Institutions in our State, viz.:

1. Rensselaer Polytechnic Institute, Troy. (Laws of 1864, chapter 320.)
2. Long Island Historical Society, Brooklyn. (Laws of 1865, chapter 198.)
3. Cornell Library, Ithaca. (Laws of 1865, chapter 697.) Transferred to Cornell University, Ithaca. (Laws of 1868, chapter 169.)
4. American Museum of Natural History, New York. (Laws of 1869, chapter 774.)
5. Syracuse University. (Laws of 1872, chapter 541.)

In the distribution of the duplicate fossils, the specimens were arranged in a serial order, giving to each collection, one or more characteristic specimens of the same species. Some of the species being much more numerous than others, were continued in distribution beyond the number of collections required by the legislative acts cited; and twenty collections in all were thus made up, the last ones containing, of course, comparatively few species. It was, and still is, intended to continue the distribution, in the same manner, of all the duplicates which we now have, or which may come into our possession in future, unless otherwise directed. The collections already arranged, are packed in boxes and numbered accordingly.

The collections for the Rensselaer Polytechnic Institute, the Long Island Historical Society, the Cornell University, and the Syracuse University have already been sent to their destination.

By direction of the Secretary of the Board of Regents, a collection has been sent to the Normal and Training School at Oswego; and also one to the Normal School in Albany.

Of the twenty collections which have been prepared and catalogued, fourteen remain at the Museum to be disposed of in accordance with the existing legislative enactments, and the direction hereafter to be given by the Board of Regents.

The five collections distributed, contain 2,367 fossil and rock specimens and 291 specimens of minerals—a total of 2,658 specimens, all authentically labeled. The total number of specimens already arranged in all the twenty collections, and labeled with name and locality, including a few smaller collections, is more than twelve thousand.

I am very respectfully,

Your obedient servant,

JAMES HALL,

Director.

ADDITIONS TO THE STATE MUSEUM

DURING THE YEAR 1875.

I. ZOÖLOGICAL.

Forty-three species and four varieties of U. S. Land and Freshwater Shells (number of examples not recorded); Feb. 1, 1875.

Twenty-nine species of the same, in 181 examples; Feb. 18th.

Eighty-seven species of the same, in 520 examples; March 15th: a total of 159 species. From Dr. JAMES LEWIS, Mohawk, N. Y.

Samia Cecropia (Linn.), June 26th. From O. F. RUSS, Albany, N. Y.

Larvæ of *Samia Cecropia* (Linn.) and *Anisota senatoria* (Sm.-Abb.); Aug. 24th. From R. W. DOWSE, Albany, N. Y.

Corydalis cornuta (Linn.), the Hellgrammite fly; July 15th. From T. H. GIBBON, Albany, N. Y.

Larva of *Thyreus Abbotii* Swains; June 16th.

Larva of *Pyrrharetia isabella* (Sm.-Abb.), taken Dec. 22d, in motion, in the open air. From Miss ALICE DEWITT SPRAGUE, Castleton, N. Y.

Monohammus titillator (Fabr.); Aug. 17th. From FREDERICK COOK, Albany, N. Y.

Larvæ of *Lachnosterna quercina* (Knoch). From W. W. HILL, Albany, N. Y.

Alaus oculatus (Linn.), the owl beetle, taken from the stump of a cherry tree at Castleton, Dec. 28th. From C. H. VAN BENTHUYSEN, Albany, N. Y.

A Hair-snake, *Gordius longilobatus* Leidy, drawn from a water-faucet in Albany. From H. P. PHELPS, Albany, N. Y.

A specimen of the Lesser Red Poll, *Ægiothus linaria* Cab., shot in New Scotland, Albany county, N. Y. From JOHN S. MOAK.

Bonaparte's Gull, *Larus (Chrococephalus) Philadelphia* (Ord.) Gray. Taken May 3d on the Hudson river, near Albany. Purchased for the Museum.

Ruby-throated Humming-bird, *Trochilus colubris* (Linn.). From VERPLANCK COLVIN, Albany, N. Y.

A Sea Lamprey, *Petromyzon Americanus* Lesu., taken in the Hudson river, at Albany, May 10th; length, twenty-nine inches. Purchased for the Museum.

A Red-fin, *Leuciscus cornutus* Mitch. From W. W. HILL, Albany, N. Y.

A specimen of the spiny box-fish, *Chilomycterus geometricus* (Linn.) Kaup (*Diodon maculato-striatus* *Dekay*). New York harbor, Oct. 5th. From CHARLES E. SCHARFF, Albany N. Y.

A Collection made at Danville, Illinois, consisting of about 300 examples of Lepidoptera; Coleoptera in about 500 examples; Hymenoptera, ten examples; Diptera, twelve examples; Orthoptera, about thirty examples; Neuroptera, about twenty examples; Homoptera, about thirty examples.

An alcoholic collection of Larvæ of Insects, etc., in alcohol, nineteen bottles; Araneina, twenty bottles; Pedipalpi, four bottles; Myriopoda, thirteen bottles.

Among the Lepidoptera are the following species :

<i>Sesia marginalis</i> Grote.	<i>Danaïs Archippus</i> (Fabr.).
<i>Deilephila tersa</i> (Linn.).	<i>Argynnis Cybele</i> (Fabr.).
<i>Philampelus Pandorus</i> (Hübner).	<i>Grapta interro. v. umbrosa</i> .
<i>Cressonia Juglandis</i> (Sm.-Abb.).	<i>Grapta Progne</i> (Cram.).
<i>Macrosila 5-maculata</i> (Steph.).	<i>Pyrameis Atalanta</i> (Linn.).
<i>Macrosila Carolina</i> (Linn.).	<i>Vanessa Antiopa</i> (Linn.).
<i>Dolba Hyleus</i> (Drury).	<i>Actias Luna</i> (Linn.).
<i>Papilio Asterias</i> Fabr.	<i>Samia Cecropia</i> (Linn.).
<i>Papilio Philenor</i> Linn.	<i>Spilosoma Virginica</i> (Fabr.).
<i>Papilio Troilus</i> Linn.	<i>Arctia Virgo</i> (Linn.).
<i>Papilio Cresphontes</i> Cram.	<i>Dipterygia pinastri</i> (Linn.).
<i>Papilio Turnus</i> Linn.	<i>Erasteria carneola</i> Guen.
<i>Papilio Ajax v. Marcellus</i> .	<i>Drasteria erechtea</i> (Cram.).
<i>Pieris Protodice</i> Boisd.-Lec.	<i>Catocala innubens</i> Guen.
<i>Colias Philodice</i> Godart.	<i>Hematopsis grataria</i> (Fabr.).

A list of the Coleoptera, etc., will be given hereafter.

From WILLIAM GURLEY, at Ithaca, N. Y. A very large proportion had become entirely worthless from the depredations of the Anthrenus. Received in exchange for Museum reports.

Menobranchus lateralis Harl., from a tributary of the Hudson river near Albany. From ROBERT T. L. CRAFTS, Newtonville, N. Y.

II. BOTANICAL.

Three beans, from coast of Texas. From JAMES S. POLHEMUS.

Three species of Ferns, and *Mitremyces lutescens* Schw. From Mrs. E. E. ATWATER, Chicago, Ill.

Mitremyces lutescens S. From Mrs. T. E. MORRIS, Potomac, Va.

Scirpus maritimus L., and *Botrychium matricariaefolium* Braun. From Mrs. S. M. RUST, Syracuse, N. Y.

Botrychium matricariaefolium Braun. From Mrs. BARNES, Syracuse, N. Y.

Two species of *Arceuthobium* and a Fern. From Mrs. L. A. MILLINGTON, Glens Falls, N. Y.

Pinus contorta Dougl., and five species of Ferns. From W. W. HILL, Albany, N. Y.

Pinus contorta Dougl. From C. DEVOL, M. D., Albany, N. Y.

A Lichen and six species of Fungi. From W. R. GIRARD, Poughkeepsie, N. Y.

Three species of Fungi. From E. C. HOWE, M. D., Yonkers, N. Y.

Podisoma macropus Schw. From I. A. LAPHAM, Milwaukee, Wis.

Rumex Engelmanni Ledeb. From Prof. JAMES HALL, Albany, N. Y.

Three rare species of flowering plants. From Prof. G. H. FRENCH, Irvington, Ill.

Uromyces Junci Schw., on *Juncus Balticus*. From H. GILLMAN, Detroit, Mich.

Rhytisma acerinum Fr. From C. F. PARKER, Germantown, Pa.

Two species of Fungi (one new). From Prof. C. E. BESSEY, Ames, Iowa.

Azalea viscosa L. From Rev. H. WIBBE, Oswego, N. Y.

Six species of Fungi. From C. C. FROST, Brattleborough, Vt.

Pannaria crassophylla Tuckerm. From E. A. RAY, Bethlehem, Pa.

Two species of Ferns and six of Fungi. From H. A. WARNE, Oneida, N. Y.

Twelve species of Fungi. From J. B. ELLIS, Newfield, N. J.

Thirty-two species of Fungi, several of them new. From Hon. G. W. CLINTON, Buffalo, N. Y.

One hundred and sixteen species of Fungi, new to the State Herbarium. By collection of the Botanist, CHARLES H. PECK.

III. GEOLOGICAL, PALÆONTOLOGICAL AND MINERALOGICAL.

A block of Medina Sandstone ($12\frac{1}{2} \times 7 \times 6$ inches), with six styles of dressing. From Fulton, Oswego county, N. Y. No. 161 in Economic Collection.

A block of Grey Sandstone ($7 \times 6 \times 3$ inches), with six styles of dressing. From Portage, Livingston county, N. Y. No. 162 in Economic Collection. From Hon. E. W. LEAVENWORTH, Syracuse, N. Y.

Slickensides, in Hudson River Shales, from a well at the Albany Rural Cemetery. From JAMES GAZELEY, Albany, N. Y.

Head of fossil fish, *Macropetalichthys Sullivanti* Newberry. From the Upper Helderberg group. Ohio. (Name of donor lost.)

Gyroceras Matheri Conrad. From WILLIAM YOUNGBLUT, Albany, N. Y.

Two slabs from the Chemung group, containing numerous specimens of *Dictyophyton filitextile* Hall. Concord, Erie county, Pa. Purchased of WILLIAM GROVES.

Dictyophyton Conradi Hall. Type specimen. Sixteenth Report on the State Cabinet of Natural History (1863, p. 89, pl. v, fig. 2 and pl. v a, fig. 2). From SAMUEL EWING, Randolph, Cattaraugus county, N. Y. (Loaned for description in 1863, and subsequently donated to the Museum Collections).

A piece of Sandstone marked with concentric lines from pyritiferous decomposition. From J. E. ALLANSON, Albany, N. Y.

A concretion of unusual form, taken from a gravel bed at Cocksackie, N. Y. From DANIEL FORD, East Albany, N. Y.

Fifty-six specimens of Claystones and concretionary masses from a clay bed on the N. Y. C. and H. R. railroad at West Albany. From F. FIEDLER, West Albany, N. Y.

Lignite, taken from blue clay, 65 feet below the surface, in Washington, D. C., by JAMES A. BRIGGS, Brooklyn, N. Y. Deposited by T. L. HARISON, Secretary of N. Y. State Agricultural Society.

A Collection of seventy-three specimens, from the Rocky Mountains, of silicified wood, hot springs deposits, basalt, lignite, iron ore, gold and silver ores, granite, fossils, etc. From C. J. RONEY, of the University of Chicago, in exchange for Museum reports.

- Two specimens of argentiferous lead ore, from Newburyport, Mass.
 From J. C. HOADLEY, Lawrence, Mass.
- Iron pyrites, from Schodaek Landing, N. Y. From IRA RIGHTMEYER.
- Fossil fish-spine, from near Waterloo, N. Y. From C. MERYDETH
 WOODWARD, M. D., through Dr. Armsby.
- Quartz and Calcite, from Westerlo, Albany county, N. Y. From
 ENOCH MABEY, Albany, N. Y.
- Specular Iron, from Canton, St. Lawrence county, N. Y. From
 J. M. CHRISTY, Gallitzin, Cambria county, Pa.

IV. ARCHÆOLOGICAL.

- A glazed earthen cup and pewter spoon, found in excavating for the
 N. Y. Central R. R. at Mohawk, N. Y. From Dr. JAMES LEWIS,
 Mohawk.
- A pod augur, of the style used in the last century. From JOHN
 FERGUSON, Worcester, Otsego county, N. Y.
- An Indian stone chisel. From GEORGE W. BROWER, Schenectady,
 N. Y.

V. TO THE LIBRARY.

- Reports on the Geological Survey of the State of Missouri, 1855-
 1871. By G. C. Broadhead, F. B. Meek and B. F. Shumard.
 Jefferson City, 1873. Royal, 8vo., pp. 323.
- Geological Survey of Missouri. Raphael Pumpelly, Director. Pre-
 liminary Report on the Iron Ores and Coal Fields, from the Field
 Work of 1872; with an Atlas. New York, 1873. Royal, 8vo.,
 pp. ; Part I, 214; Part II, 441.
- Report on the Geological Survey of the State of Missouri, including
 Field Work of 1873-1874; with 91 illustrations and an Atlas.
 Garland C. Broadhead, State Geologist. Jefferson City, 1874.
 Royal, 8vo., pp. 734, xlix. From GARLAND C. BROADHEAD.
- Report on the Geological Survey of the State of Iowa: Embracing
 the results of investigations made during portions of the years
 1855, 1856 and 1857. By James Hall, State Geologist; J. D.
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REPORT OF THE BOTANIST.

S. B. WOOLWORTH, LL. D., *Secretary of the Board of Regents of the University* :

SIR. — Since the date of my last report, specimens of two hundred and twenty-five species of plants have been mounted and placed in the State Herbarium, of which two hundred and one were not before represented. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Rensselaer and Lewis. These represent one hundred and sixteen species of fungi new to the Herbarium. Sixty-eight of them are regarded as new or undescribed species. A list of collected plants is marked (2).

Specimens of thirty-seven species, new to the Herbarium and not among my collections of the past season, have been received from correspondents. Twelve of them are regarded as new or hitherto undescribed species. If the contributed specimens be added to those of my own collecting, the total number of additional species represented is one hundred and fifty-three. This does not include extralimital species, specimens of a considerable number of which have been received. A list of contributors and their contributions is marked (3).

Notices of previously unreported species, with descriptions of new species, are marked (4).

Notices of species previously reported, with remarks and observations, are marked (5).

Nearly three hundred species of fungi that attack and inhabit living plants have been detected in the State.

They affect almost as many species of flowering plants. In some cases several parasites attack the same host plant; in others, one parasite attacks two or more host plants indiscriminately. But, in many instances, a single parasite is peculiar to a single supporting plant, in which cases the latter may be taken by the student as a guide in his search for the description of the former. A *Puccinia* found on the leaves of the dwarf cornel, *Cornus Canadensis*, is almost

certain to answer to the description of *Puccinia porphyrogenita*, and an *Aecidium* on the leaves of the barberry, *Berberis vulgaris*, will scarcely be any other than *Aecidium Berberidis*.

A fact of still greater moment is, that some of our cultivated plants are attacked by fungoid foes which, minute as they are, materially diminish their vigor, impair their useful products and, in some instances, even destroy their vitality. Raspberries are attacked by the American raspberry rust, *Uredo luminata*; pea vines, by the pea mildew, *Erysiphe Martii*; oats and wheat, by the grain smut, *Ustilago Carbo*; plum and cherry trees, by the black-knot, *Sphaeria morbosa*, and lettuce and onions by their respective molds, *Peronospora gangliiformis* and *Peronospora Schleideniana*. Such fungi must be regarded as injurious to the interests of the husbandman, nor is the pecuniary loss which they occasion trivial or inconsiderable. The loss produced by the potato mold alone, *Peronospora infestans*, abundantly warrants all the effort and labor and study that have been devoted to the investigation of the history of the fungus and to the discovery of some efficient means for preventing its attacks or overcoming their destructive consequences.

On the other hand those fungi that infest noxious weeds and hinder their dissemination and multiplication, must be regarded as the friends and allies of man. Thus the thistle rust, *Trichobasis suaveolens*, an early state of *Puccinia Compositarum*, sometimes attacks the Canada thistle with great virulence, and so impairs its vigor as to prevent the development of the seeds, thereby checking the propagation and spread of this pestilent plant. So, also, the troublesome bur-grass, *Cenchrus tribuloides*, is sometimes infested by a smut fungus, *Ustilago Syntherismae*, which not only prevents the development of the seeds of the grass but also of the annoying bur-like involucre. It may yet be found practicable to keep down this grass by the artificial dissemination of the spores of its parasitic fungus in those light, sandy soils where the grass usually abounds. It certainly is desirable that the life histories of these fungoid friends and foes should be better understood than they now are, and that the means of multiplying or diminishing their numbers according to their character should be under the control of the farmer.

With these thoughts in mind it has seemed advisable to group together the names of the parasitic fungi hitherto found in the State, with their supporting plants. The list of these is marked (6).

(1.)

PLANTS MOUNTED.

Not new to the Herbarium.

Nuphar advena Ait.
Rhus venenata DC.
Geum Virginianum L.
Pinguicula vulgaris L.
Lophanthus serophulariaefolius
Trillium erect. v. album Pk.
Allium vineale L.
A. tricoccum Ait.
Scirpus Eriophorum Mx.
Eriophorum Virginicum L.
E. gracile Koch.
Carex exilis Dew.
C. fenea Willd.
C. Grayii Carey.
C. livida Willd.
C. Crawei Dew.
Eleusine Indica Gart.
Millium effusum L.
Poa trivialis L.
P. alsodes Gr.
Asplenium thelypteroides Mx.
Onoclea sensibilis L.
Lygodium palmatum Sw.
Ophioglossum vulgatum L.

New to the Herbarium.

Negundo aceroides Munch.
Sedum reflexum L.
Nardosmia palmata Hook.
Aster amethystinus Nutt.
Centaurea nigra L.
Verbena bracteosa Mx.
Callitriche heterophylla Ph.
Habenaria leucophæa Nutt.
Allium Canadense Kalm.
Barbula recurvifolia Schp.
Hypnum compactum C. Mull.
Biatora uliginosa Schrad.

Collema limosum Ach.
Synalissa Scherereri Mass.
Spirogyra longata Ktz.
Hydrogastrium granulatum Desv.
Pleurococcus vulgaris Mengh.
Agaricus pusillomyces Pk.
A. tenerrimus Berk.
A. Austini Pk.
A. Watsoni Pk.
A. erinaceëllus Pk.
A. Colvini Pk.
Coprinus Seymouri Pk.
Hygrophorus marginatus Pk.
H. parvulus Pk.
H. Peckianus Howe.
Cantharellus pruinosus Pk.
Lentinus umbilicatus Pk.
Boletus Spraguei Frost.
B. chromapes Frost.
Polyporus Stephensii Berk.
Hydnum aurantiacum Batsch.
H. anriscalpium L.
Michenera Artocreas B. & C.
Stereum candidum Schw.
Corticium giganteum Fr.
C. colliculosum B. & C.
Cyphella muscigena Fr.
Solenia filicina Pk.
Clavaria pyxidata Pers.
C. rugosa Bull.
C. pulchra Pk.
C. gracillima Pk.
Typhula Grevillei Fr.
Tremella vesicaria Bull.
Physarum contextum Pers.
P. albicans Pk.
Dictydium umbilicatum Schrad.
Phoma pallens B. & C.

- Phoma Marie Clinton.*
Diplodia Herbarum Lev.
Sphaeropsis Sambuci Pk.
S. biformis Pk.
S. Squieriae Clinton.
S. Wilsoni Clinton.
S. Clintonii Pk.
Hendersonia Peckii Clinton.
II. Marie Clinton.
II. Sarmentorum West.
Vermicularia coptina Pk.
Septoria Coptidis B. & C.
S. maculosa Ger.
S. Wilsoni Clinton.
S. sambucina Pk.
S. Scrophulariae Pk.
S. Rhoidis B. & C.
Dinemasporium Pezizula B. & C.
Asteroma Rosae DC.
Morthiera Mespili Eckl.
Discella discoidea C. & P.
Sphaeronema conforme Pk.
S. oxysporum Berk.
Coryneum Kunzei Ud.
Melanconium disseminatum Fr.
M. minutissimum Schw.
Pestalozzia insidens Zab.
P. rostrata Zab.
P. monochaeta Desm.
Septonema Peziza C. & E.
Sporidesmium Lepraria Berk.
Puccinia Sorghi Schw.
P. bullaria Lk.
P. Smilacis Schw.
P. Dayi Clinton.
P. Clintonii Pk.
Ustilago neglecta Niessl.
Uromyces Graminum Ch.
U. Phaseoli Strauss.
Protomyces Menyanthis D. By.
Peridermium columnare A. & S.
Aecidium album Clinton.
Æ. Nesææ Ger.
Æ. dracontiatum Schw.
Cystopus Bliti Biv.
Stilbum candidum Pk.
S. aurifilum Ger.
Monotospora biseptata Pk.
Stachybotrys lobulata Berk.
Haplographium apiculatum Pk.
Helminthosporium Urticæ Pk.
Macrosporium Saponariæ Pk.
Nematogonum aurantiacum Desm.
Erysiphella aggregata Pk.
Microsphaera Van Bruntiana Ger.
M. Platani Howe.
M. Symphoricarpi Howe.
M. Menispermii Howe.
M. abbreviata Pk.
Uncinula luculenta Howe.
Chaetomium Douglasii Schw.
Peronospora obliqua Ch.
P. Geranii Pk.
Geoglossum velutipes Pk.
Peziza amplispora C. & P.
P. pallidula C. & P.
P. omphalodes Bull.
P. sepulta Fr.
P. ovilla Pk.
P. clandestina Bull.
P. Oenurbitæ Ger.
P. hyalina Pers.
P. scirpina Pk.
P. Pteridis A. & S.
P. corneola C. & P.
P. subatra C. & P.
P. atrocinnerea Ch.
Helotium pileatum Pk.
II. salicellum Fr.
Patellaria fenestrata C. & P.
P. dispersa Ger.
P. fuispora C. & P.

Sphinetrina tigillaris <i>B. & Br.</i>	Valsa suffusa <i>Fr.</i>
Cenangium Rubi <i>Fr.</i>	V. femoralis <i>Pk.</i>
C. deformatum <i>Pk.</i>	V. sambucina <i>Pk.</i>
C. Aneupariæ <i>Fr.</i>	Cucurbitaria alnea <i>Pk.</i>
Stictis pupula <i>Fr.</i>	C. seriata <i>Pk.</i>
S. hysterna <i>Fr.</i>	Lophiostoma Jerdoni <i>B. & Br.</i>
S. quercina <i>Pk.</i>	L. macrostoma <i>Fr.</i>
Rhytisma Urticæ <i>Fr.</i>	L. triseptata <i>Pk.</i>
Hysterium Rousselii <i>De Not.</i>	L. Scrophulariæ <i>Pk.</i>
H. magnosporium <i>Ger.</i>	L. Spirææ <i>Pk.</i>
Colpoma Ledi <i>Pk.</i>	Sphaeria pulicaris <i>Pers.</i>
Ailographum subconfluens <i>Pk.</i>	S. hirtissima <i>Pk.</i>
Torrubia superficialis <i>Pk.</i>	S. subcorticalis <i>Pk.</i>
T. clavulata <i>Schw.</i>	S. phæostromoides <i>Pk.</i>
Epichloe typhina <i>Berk.</i>	S. ampicornis <i>Ellis.</i>
Nectria sanguinea <i>Fr.</i>	S. canina <i>Pk.</i>
Hypoxylon Sassafras <i>Schw.</i>	S. valsoides <i>Pk.</i>
Dothidea Linderæ <i>Ger.</i>	S. minima <i>Awd.</i>
D. clavispora <i>C. & P.</i>	S. Scoriadea <i>Fr.</i>
Melogramma gyrosum <i>Schw.</i>	S. monosperma <i>Pk.</i>
M. Bulliardi <i>Tul.</i>	S. rubefaciens <i>Pk.</i>
Diatrype aspera <i>Fr.</i>	S. Urticæ <i>Rabh.</i>
D. subcylpeata <i>C. & P.</i>	S. mirabilis <i>Pk.</i>
D. anomala <i>Pk.</i>	S. tubæformis <i>Tode.</i>
Melanconis bicornis <i>Ck.</i>	Sphaerella sparsa <i>Awd.</i>
Valsa Prunastri <i>Fr.</i>	S. carpineæ <i>Fr.</i>
V. Rubi <i>Eckl.</i>	S. indistincta <i>Pk.</i>
V. Woolworthi <i>Pk.</i>	S. orbicularis <i>Pk.</i>
V. leiphemia <i>Fr.</i>	S. oblivia <i>Ck.</i>
V. acerina <i>Pk.</i>	Venturia Myrtilli <i>Ck.</i>
V. oxyspora <i>Pk.</i>	V. Clintonii <i>Pk.</i>
V. obscura <i>Pk.</i>	V. Kalmiæ <i>Pk.</i>
V. mucronata <i>Pk.</i>	

(2.)

PLANTS COLLECTED.

- | | |
|--------------------------------------------|--------------------------------------------|
| Agaricus transmutans <i>Pk.</i> | Cryptosporium Caricis <i>Cd.</i> |
| A. sapidus <i>Kalchb.</i> | Sphaeropsis propullans <i>Schw.</i> |
| A. abundans <i>Pk.</i> | S. Gallæ <i>Schw.</i> |
| A. citrinellus <i>Pers.</i> | Discosia faginea <i>Lib.</i> |
| A. stylobates <i>Pers.</i> | Melasmia alnea <i>Lev.</i> |
| A. pubescentipes <i>Pk.</i> | Septoria cerasina <i>Pk.</i> |
| A. pruinatipes <i>Pk.</i> | S. difformis <i>C. & P.</i> |
| A. teneroides <i>Pk.</i> | Excipula leucotricha <i>Pk.</i> |
| A. placomycetes <i>Pk.</i> | Discella Platani <i>Pk.</i> |
| A. squalidellus <i>Pk.</i> | D. Kalmiæ <i>Pk.</i> |
| A. elongatipes <i>Pk.</i> | D. macrosperma <i>Pk.</i> |
| A. atomatoides <i>Pk.</i> | Melanconium pallidum <i>Pk.</i> |
| A. incertus <i>Pk.</i> | Phragmidium gracile <i>Grev.</i> |
| Coprinus pulchrifolius <i>Pk.</i> | Ustilago Candollei <i>Tul.</i> |
| C. plumbens <i>Pk.</i> | Uromyces Claytoniæ <i>C. & P.</i> |
| Cortinarius splendidus <i>Pk.</i> | Coleosporium ochraceum <i>Bon.</i> |
| C. sphagnophilus <i>Pk.</i> | Cystopus Portulacæ <i>DC.</i> |
| C. robustus <i>Pk.</i> | Stilbum vulgare <i>Tode.</i> |
| C. castanellus <i>Pk.</i> | Epicoccum neglectum <i>Desm.</i> |
| Gomphidius rhodoxanthus <i>Schw.</i> | Periconia truncata <i>C. & P.</i> |
| Hygrophorus speciosus <i>Pk.</i> | P. corticalis <i>C. & P.</i> |
| Lactarius scrobiculatus <i>Scop.</i> | Helminthosporium oosporum <i>Cd.</i> |
| L. vellereus <i>Fr.</i> | H. episphaericum <i>C. & P.</i> |
| L. subpurpureus <i>Pk.</i> | Polyactis pulvinata <i>B. & C.</i> |
| L. parvus <i>Pk.</i> | Peronospora effusa <i>Grev.</i> |
| Marasmius spongiosus <i>B. & C.</i> | P. pygmæa <i>Ung.</i> |
| Boletus badius <i>Fr.</i> | Ramularia Nemopanthis <i>C. & P.</i> |
| B. Russellii <i>Frost.</i> | Oidium leucoconium <i>Desm.</i> |
| B. Peckii <i>Frost.</i> | Stysanus Stemonitis <i>Cd.</i> |
| B. nigrellus <i>Pk.</i> | Dactylium roseum <i>Berk.</i> |
| B. griseus <i>Frost.</i> | Fusisporium phyllogenum <i>C. & P.</i> |
| B. ornatipes <i>Pk.</i> | F. parasiticum <i>Pk.</i> |
| B. Ravenelii <i>B. & C.</i> | Chaetomium funicolum <i>Cl.</i> |
| Exobasidium Cassandrarum <i>Pk.</i> | Peziza imperialis <i>Pk.</i> |
| Phallus Dæmonum <i>Fr.</i> | P. griseo-rosea <i>Ger.</i> |
| Lycoperdon coloratum <i>Pk.</i> | P. albospadicea <i>Grev.</i> |
| Chondrioderma Michellii <i>Lib.</i> | P. bronca <i>Pk.</i> |
| Lamproderma physaroides <i>A. & S.</i> | P. longipes <i>C. & P.</i> |

Peziza agrostina <i>Pk.</i>	Valsa cinetula <i>C. & P.</i>
P. Pinastri <i>C. & P.</i>	V. Fraxinicola <i>C. & P.</i>
P. Thalictri <i>Pk.</i>	V. Linderae <i>Pk.</i>
P. virginella <i>Ck.</i>	Sphaeria fulgida <i>C. & P.</i>
P. subtilissima <i>Ck.</i>	S. squalidula <i>C. & P.</i>
Helotium hydrogenum <i>Pk.</i>	S. salebrosa <i>C. & P.</i>
H. saprophyllum <i>C. & P.</i>	S. recessa <i>C. & P.</i>
Ascobolus ciliatus <i>Schm.</i>	S. interstitialis <i>C. & P.</i>
A. furfuracens <i>Pers.</i>	S. obtusissima <i>B. & C.</i>
Bulgaria purpurea <i>Fckl.</i>	S. Fineti <i>Pers.</i>
Stictis versicolor <i>Fr.</i>	S. spiculosa <i>Pers.</i>
S. filicina <i>Pk.</i>	S. obducens <i>Fr.</i>
Hypocrea rufa <i>Fr.</i>	S. ceanothina <i>Pk.</i>
H. chromosperma <i>C. & P.</i>	S. melantera <i>Pk.</i>
H. apiculata <i>C. & P.</i>	S. minutella <i>Pk.</i>
Hypomyces transformans <i>Pk.</i>	S. smilacinina <i>Pk.</i>
Dothidea filicina <i>Fr.</i>	S. culmifraga <i>Desm.</i>
Valsa trichispora <i>C. & P.</i>	S. Collinsii <i>Schw.</i>
V. tumidula <i>C. & P.</i>	Sphaerella colorata <i>Pk.</i>

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Mrs. E. E. ATWATER, Chicago, Ill.

Phegopteris Dryopteris <i>Fee.</i>	Cystopteris fragilis <i>Bernh.</i>
P. polypodioides <i>Fee.</i>	Mitremyces lutescens <i>Schw.</i>

Mrs. T. E. MORRIS, Potomac, Va.

Mitremyces lutescens *Schw.*

Mrs. S. M. RUST, Syracuse, N. Y.

Scirpus maritimus <i>L.</i>	Botrychium matricariaefolium.
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Mrs. BARNES, Syracuse, N. Y.

Botrychium matricariaefolium *A. Br.*

Mrs. L. A. MILLINGTON, Glens Falls, N. Y.

Arceuthobium Americanum <i>Engelm.</i>	Arceuthobium robustum <i>Engelm.</i> Aspid. Noveb. v. fragrans <i>Mill.</i>
-------------------------------------------	--------------------------------------------------------------------------------

W. W. HILL, Albany, N. Y.

<i>Pinus contorta</i> <i>Dough.</i>	<i>Woodwardia Virginica</i> <i>Sm.</i>
<i>Aspidium spinulosum</i> <i>Sw.</i>	<i>Dicksonia punctilobula</i> <i>Kze.</i>
<i>Asplenium Filix-femina</i> <i>Bernh.</i>	<i>Botrychium matricariæfolium.</i>

C. DEVOL, M. D., Albany, N. Y.

Pinus contorta *Dough.*

W. R. GERARD, Poughkeepsie, N. Y.

<i>Omphalaria pulvinata</i> <i>Nyl.</i>	<i>Uncinula geniculata</i> <i>Ger.</i>
<i>Agaricus tremulus</i> <i>Schaff.</i>	<i>Helotium æruginosum</i> <i>Fr.</i>
<i>Boletus parasiticus</i> <i>Bull.</i>	<i>Bulgaria purpurea</i> <i>Fekl.</i>
<i>Melanogaster ambiguus</i> <i>Tul.</i>	

E. C. HOWE, M. D., Yonkers, N. Y.

<i>Badhamia hyalina</i> <i>Pers.</i>	<i>Diatrype Smilacicola</i> <i>Schw.</i>
<i>Septoria Ulmi</i> <i>Kze.</i>	

I. A. LAPHAM, Milwaukee, Wis.

Podisoma macropus *Schw.*

Prof. J. HALL, Albany, N. Y.

Rumex Engelmanni *Ledeb.*

Prof. G. H. FRENCH, Irvington, Ill.

<i>Dryas octopetala</i> <i>L.</i>	<i>Heuchera bracteata</i> <i>Seringe.</i>
<i>Jamesia Americana</i> <i>T. & G.</i>	

H. GILLMAN, Detroit, Mich.

Uryomces Junci *Schw.*

C. F. PARKER, Germantown, Pa.

Rhytisma acerinum *Fr.*

Prof. C. E. BESSEY, Ames, Iowa.

<i>Septoria Besseyi</i> <i>Pk.</i>	<i>Cystopus candidus</i> <i>Lev.</i>
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Rev. H. WIEBE, Oswego, N. Y.

Azalea viscosa *L.*

C. C. FROST, Brattleborough, Vt.

Marasmius archyropus <i>Fr.</i>	Paxillus porosus <i>Berk.</i>
M. erythropus <i>Fr.</i>	Lycoperdon cyathiforme <i>Bosc.</i>
Boletus griseus <i>Frost.</i>	Endobotrys elegans <i>B. & C.</i>

E. A. RAU, Bethlehem, Pa.

Pannaria crossophylla *Tuckerm.*

H. A. WARNE, Oneida, N. Y.

Pellaea gracilis <i>Hook.</i>	Phragmidium mucronatum <i>Fr.</i>
Scelopendrium vulgare <i>Sm.</i>	P. gracile <i>Grev.</i>
Guepinia helvelloides <i>DC.</i>	Lycoperdon constellatum <i>Fr.</i>
Lactarius vellereus <i>Fr.</i>	L. Warnei <i>Pk.</i>

J. B. ELLIS, Newfield, N. J.

Hymenochaete agglutinans <i>Ellis.</i>	Ombrophila violacea <i>Fr.</i>
Peziza inquinans <i>Ch.</i>	O. purpurascens <i>Fr.</i>
P. nigrescens <i>Ch.</i>	O. subaurea <i>Ch.</i>
Dermatea tabacina <i>Ch.</i>	Sporidesmium rude <i>Ellis.</i>
Hypocrea rufa <i>Fr.</i>	Diatrype moroides <i>C. & P.</i>
H. consimilis <i>Ellis.</i>	Menispora ciliata <i>Cd.</i>

Hon. G. W. CLINTON, Buffalo, N. Y.

Corticium sulfureum <i>Fr.</i>	Graphiolum Phœnicis <i>Poit.</i>
Phoma nebulosum <i>Berk.</i>	Stilbum smaragdinum <i>A. & S.</i>
Peckia Clintonii <i>Pk.</i>	Egerita candida <i>Pers.</i>
P. Sarraceniae <i>P. & C.</i>	Cercospora Callæ <i>P. & C.</i>
Cryptosporium Noveboracense.	Ramularia Nemopanthis <i>C. & P.</i>
Septoria Polygalæ <i>P. & C.</i>	Zygodesmus hydroides <i>B. & C.</i>
S. emaculata <i>P. & C.</i>	Bulgaria purpurea <i>Fekl.</i>
Vermicularia concentrica <i>P. & C.</i>	Tympanis gyrosa <i>B. & C.</i>
Discosia rugulosa <i>B. & C.</i>	Hypocrea patella <i>C. & P.</i>
Pestalozzia Guepini <i>Desm.</i>	H. chromosperma <i>C. & P.</i>
Sporidesmium concinnum <i>Berk.</i>	Hypoxylon fuscopurpureum <i>Schw.</i>
Clasterisporium uncinatum <i>Clint.</i>	Diatrype Cephalanthi <i>Schw.</i>
Puccinia Calthæ <i>Lk.</i>	Melogramma superficialis <i>P. & C.</i>
P. Gentianæ <i>Strauss.</i>	Valsa leptasca <i>P. & C.</i>
P. Physostegiae <i>P. & C.</i>	Sphaeria spermoides <i>Hoffm.</i>
Cystopus spinulosus <i>DeBy.</i>	S. exilis <i>A. & S.</i>

(4.)

PLANTS NOT BEFORE REPORTED.

OMPHALARIA PULVINATA *Nyl.*Poughkeepsie. *W. R. Gerard.*AGARICUS (TRICHOLOMA) TRANSMUTANS *n. sp.*

Pileus convex, smooth, very viscid or glutinous and alutaceous when moist, becoming brownish or reddish-brown when dry; lamellæ narrow, close, some of them branched, whitish or pale yellow, becoming spotted with reddish stains; stem equal or slightly tapering upwards, smooth, stuffed or hollow, whitish, often marked with reddish stains; spores subglobose, .0002' * in diameter.

Plant 3'-4' high, pileus 2'-3' broad, stem 3"-5" thick.

Ground in woods. Sandlake. August.

It occurs in wet weather and manifests a tendency to grow in circles.

AGARICUS SAPIDUS *Kalchb.*

Trunks of trees and old stumps. Albany and Knowersville. June and October.

The caespitose habit and lilac-tinted spores are to be observed in distinguishing this species from its allies. It is considered edible.

AGARICUS TREMULUS *Schaff.*

Mosses. Poughkeepsie. *Gerard.*

AGARICUS (COLLYBIA) ABUNDANS *n. sp.*

Pileus thin, convex or expanded, subumbilicate, innate-fibrillose, whitish inclining to fuscous, often a little darker and more densely fibrillose on the disk, the thin margin easily splitting; lamellæ narrow, close, adnate, sometimes veiny, white; stem equal, smooth, hollow, easily splitting, often curved, colored like the pileus, pruinose at the top.

Plant gregarious or subcaespitose, 1'-2' high, pileus 1'-1.5' broad, stem 1" thick.

Decaying trunks in woods. Sandlake and Greig. August and September.

This fungus is not frequent, but when it does occur it is usually in great abundance. When drying the margin rolls inward and the color becomes darker.

* One accent signifies inch or inches, two accents line or lines.

AGARICUS CITRINELLUS Pers.

Decaying mossy trunks in woods. Greig. September.

AGARICUS STYLOBATES Pers.

Among fallen leaves in woods. Sandlake. August.

The pileus in our specimens is grayish and the striations are dichotomous.

AGARICUS (VOLVARIA) PUBESCENTIPES n. sp.

Pileus convex, dry, white, clothed with minute hairy squamules or reflexed fibrils, fimbriate on the margin; lamellæ close, free, white, then flesh-colored, sometimes minutely serrated or eroded on the edge; stem slender, subequal, pubescent; volva subappressed, white; spores elliptical, .00025'-.00028' long, usually containing a single nucleus.

Plant about 1' high, pileus 6"-12" broad, stem 1" thick.

Ground in borders of deciduous woods. Sandlake. August.

The different pileus as well as habitat separates this from *A. hypopithys*. (Plate 1, figs. 1-3.)

AGARICUS (NAUCORIA) PRUINATIPES n. sp.

Pileus regular, convex, smooth, hygrophanous, brownish when moist, ochraceous-yellow when dry, flesh whitish; lamellæ close, nearly plane, rounded behind, pale-cinnamon; stem equal, firm, stuffed or hollow, pruinose, striate, pallid or cinereous; spores sub-elliptical, brownish-ferruginous, .00025' long.

Plant 1'-2' high, pileus 1'-1.5' broad, stem about 1" thick.

Ground in woods. Greig. September.

The pruinosity of the stem is due to the presence of minute flocculent or mealy squamules.

AGARICUS (GALERA) TENEROIDES n. sp.

Pileus thin, campanulate or expanded, hygrophanous, brownish-cinnamon and striatulate when moist, paler when dry; lamellæ narrow, close, yellowish-cinnamon; stem straight, equal, hollow, colored like the pileus; spores subluteous, nearly elliptical, .0003'-.00035' long.

Plant gregarious, 1'-1.5' high, pileus 8"-12" broad, stem .5" thick.

Ground in wood roads. Greig. September.

This species is closely related to *A. tener*, from which it differs in its more expanded pileus, more narrow lamellæ, shorter stem and smaller paler spores. Its color is nearly the same as that of *A. tener*.

AGARICUS (PSALLIOTA) PLACOMYCES *n. sp.*

Pileus rather thin, expanded, plane, dry, squamulose, whitish, the disk and small scales brown; lamellæ close, free, white, then pinkish, finally blackish-brown; stem smooth, containing a small pith, slightly tapering upward, bulbous, whitish, the bulb stained with yellow and usually giving rise to one or two root-like processes; annulus large, flabby, often studded with drops of a dark-colored fluid; spores elliptical, brown, .00018'-.0002' long.

Plant 3'-5' high, pileus 2'-3' broad, stem 2"-4" thick.

Ground under hemlock trees. Oneida. H. A. Warne. Knowersville. July.

This is a beautiful Agaric, the flattened pileus being finely adorned by the minute brown scales.

AGARICUS (HYPHOLOMA) SQUALIDELLUS *n. sp.*

Pileus thin, subconical, convex or subcampanulate, expanded when old, smooth, hygrophanous, ochraceous-yellow when dry, darker and striatulate when moist, squalid and spore-stained when old; lamellæ broad, lax, rounded behind, whitish, then purplish-brown with a whitish edge; stem slender, stuffed, fibrous, subflexuous, reddish-brown; spores elliptical, purple-brown, .00035'-.0004' long.

Plant gregarious, 1'-2' high, pileus 6"-12" broad, stem 1" thick.

Damp ground in or near wood roads. Greig. September.

A small form sometimes occurs with the pileus gibbous or broadly umbonate.

AGARICUS (PSILOCYBE) ELONGATIPES *n. sp.*

Pileus thin, convex, then expanded, smooth, moist, yellow; lamellæ subdistant, broad, plane, then ventricose, yellowish becoming brown, usually with the edge whitish; stems elongated, subfragile, flexuous, equal, stuffed or hollow, usually with a few silky fibrils, pallid or rufous; spores brown, elliptical, .0004'-.0005' long.

Plant 3'-5' high, pileus 6"-10" broad, stem 1" thick.

Among sphagnum in marshes and wet places in woods. Greig. September.

It appears to be allied to *A. elongatus*. When young the presence of a slight veil is manifest.

AGARICUS (HYPHOLOMA) INCERTUS *n. sp.*

Pileus fragile, convex or subcampanulate, then expanded, hygrophanous, often radiately-wrinkled, whitish with the disk yellowish, the thin margin sometimes purplish-tinted, often wavy, adorned by fragments of the white flocculent fugacious veil; lamellæ close, nar-

row, whitish, then rosy-brown, the edge often uneven; stem equal, straight, hollow, easily splitting, whitish, pruinose or slightly furfuraceous at the top; spores elliptical, purplish-brown, .0003' long, .0002' broad.

Plant gregarious or subcaespitose, 2'-3' high, pileus 1'-2' broad, stem 1"-2" thick.

Ground among bushes. Green Island and Sandlake. June and July.

The veil is sometimes so strongly developed as to form an imperfect annulus. The color is nearly white from the first.

AGARICUS (PSILOCYBE) ATOMATOIDES n. sp.

Pileus rather thin, fragile, convex or subcampanulate, then expanded, rugose-wrinkled, subhygrophanous, sprinkled with minute shining particles and with tufts of the white floccose fugacious veil, grayish or ochraceous-brown, sometimes with a pinkish tint; lamellae rather broad, subventricose, rounded behind, cinereous then dark-brown; stem equal, hollow, clothed when young with minute floccose scales, pruinose at the top, whitish; flesh cinereous; spores subelliptical, blackish brown, .00028'-.0003' long, .00016' broad.

Plant 1.5'-2' high, pileus 8"-12" broad, stem 1" thick.

Ground and decaying wood under pine trees. West Albany. June and July.

In very wet weather the pileus has a dark watery appearance but it dries quickly. The spores in the mass are almost black, nevertheless the plant is closely related to the fragile species of *Psilocybe*.

COPRINUS PULCHRIFOLIUS n. sp.

Pileus membranaceous, conical or campanulate, striate to the small even yellowish disk, cinereous, sprinkled with minute whitish scales or granules; lamellae narrow, crowded, free, cinnamon-brown, often furnished with a few minute hyaline spine-like processes; stem slender, fragile, hollow, white; spores elliptical, brown with a slight rosy tinge .0003' long.

Plant solitary, 2'-3' high, pileus 6"-12" broad, stem scarcely 1" thick.

Ground in woods. Greig. September.

This remarkable species does not accord well with the characters of the genus to which I have referred it, neither in the color of the spores nor in the persistent nature of the lamellae, for I have not found these to be deliquescent. Nor will it do to place it among the *Psathyrae*, for the lamellae are free and the pileus is not hygrophanous. Also, the free lamellae and brown spores forbid its reference to *Psathyrella*. I have, therefore, thought best for the present to place it

in the genus *Coprinus*, some of the species of which it much resembles in external appearance.

COPRINUS PLUMBEUS n. sp.

Pileus submembranaceous, fragile, campanulate, sulcate-striate nearly to the apex, leaden-gray, tawny or brownish-yellow on the small disk, sprinkled with tawny-cinereous hairs or flocci; lamellæ narrow, close, free; stem slightly tapering upward, hollow, floccose, white; spores elliptical, .0004' long, .00025' broad.

Plant 3'-5' high, pileus 1'-1.5' broad, stem 1"-2" thick.

Ground in wood roads. Greig. September.

CORTINARIUS (PHILEGMACIUM) SPHAGNOPHILUS n. sp.

Pileus convex or expanded, smooth, viscid, pale-brown, marked with darker watery spots, especially on the margin; lamellæ broad, subdistant, transversely rugulose, violaceous, then cinnamon; stem long, firm, bulbous, silky, striate, pale-violaceous; spores oblong-elliptical, .0004'-0.0005' long.

Plant 5'-6' high, pileus 2'-3' broad, stem 4"-5" thick.

Sphagnous marshes. Greig. September.

The spotted pileus is a distinctive feature in this species.

CORTINARIUS (MYXACIUM) SPLENDIDUS n. sp.

Pileus convex or subcampanulate, viscid, pale-fuscous; lamellæ not crowded, whitish, then cinnamon; stem equal, viscid, violaceous, whitish above; spores with an apiculus at one end, .0006'-0.00065' long.

Plant 3' high, pileus 2' broad, stem 3"-5" thick.

Ground in woods. Sandlake. August.

The shining brown pileus and violet colored stem afford a singular combination of colors. The plant is apparently very rare.

CORTINARIUS (INOLOMA) ROBUSTUS n. sp.

Pileus hemispherical, then expanded, smooth, pale-bay, the margin sometimes lobed; lamellæ close, pale-cinnamon; stem stout, solid, bulbous, pallid, clothed with whitish silky fibrils; spores elliptical, .00035' long.

Plant 2'-4' high, pileus 2'-3' broad, stem 3"-6" thick.

Ground in woods. Greig. September.

The plant is quite variable in size but it usually has a stout, rugged appearance.

CORTINARIUS (DERMOCYBE) CASTANELLUS n. sp.

Pileus thin, convex or expanded, umbonate, smooth, shining, dark-chestnut color, the umbo almost black; lamellæ close, rounded behind, cinnamon; stem silky, equal, stuffed or hollow, pallid or whitish, obscurely violaceous above; spores elliptical, .00035' long.

Plant 2' high, pileus 6"-12" broad, stem 1"-2" thick.

Ground in open fields. West Albany. October.

The smaller size of the plant, the umbonate pileus and larger spores distinguish this from *C. nigrellus*, which it somewhat resembles in color.

GOMPHIDIUS RHODOXANTHUS Schw.

Ground in deciduous woods. Sandlake. August.

The pileus is not always red, but varies sometimes toward yellow, sometimes toward brown. The spores are oblong, .0004'-0.0005' in length.

HYGROPHORUS SPECIOSUS n. sp.

Pileus at first ovate or subconical, then expanded with the thin margin decurved, smooth, glutinous, often with a small umbo, bright red or scarlet, becoming yellowish; lamellæ arcuate, decurrent, subdistant, white, the interspaces sometimes veiny; stem long, subequal, solid, white or yellowish, sometimes viscid; spores elliptical, .0003'-0.00035' long.

Plant gregarious, 3'-5' high, pileus 1'-2' broad, stem 3"-5" thick.

Ground under or near larch trees. Greig and Center. September and October.

This is a very showy plant. The small umbo or disk retains the red color longer than the rest of the pileus. (Plate 2, figs. 1-5.)

LACTARIUS SCROBICULATUS Scop.

Ground in woods. Bethlehem. August.

LACTARIUS VELLEREUS Fr.

Ground in woods. Sandlake. Oneida. Warne. August.

The tomentum of the pileus and pubescence of the stem are frequently obsolete or indistinct.

LACTARIUS SUBPURPUREUS n. sp.

Pileus at first convex, then expanded or depressed, smooth, subviscid, variegated with purplish and cinereous hues; lamellæ dull-red or purplish; stem equal, colored like the pileus; milk sparse, dark-red.

Plant 2'-4' high, pileus 2'-3' broad, stem 3"-5" thick.

Mossy ground in swamps. Sandlake. August.

The species is related to *L. deliciosus*, but there are no orange hues either to the plant or the milk as in that species.

LACTARIUS PARVUS *n. sp.*

Pileus nearly plane, then depressed, smooth, reddish-brown, becoming paler; lamellae crowded, narrow, white, then tinged with yellow; stem mostly short, often curved, stuffed, equal or slightly tapering upward, whitish; milk white, taste acrid; spores globose, rough, .00033' in diameter.

Plant about 1' high, pileus 6"-12" broad, stem 1"-2" thick.

Decaying stumps in woods. Sandlake and Greig. August and September.

MARASMIUS SPONGIOSUS *B. & C.*

Ground among fallen leaves. West Albany and Center. August.

BOLETUS BADIUS *Fr.*

Woods. Greig and Sandlake. August and September.

BOLETUS PARASITICUS *Bull.*

Parasitic on *Scleroderma vulgare*. Willowemoc. Gerard.

BOLETUS RUSSELLII *Frost.*

Woods. Sandlake. August.

This species is rare with us. It is remarkable for its long lacunose-reticulated and roughly lacerated stem, which is narrowed at the top and sometimes strongly curved at the base. Mr. Frost finds a form with the stem much twisted.

BOLETUS RAVENELII *B. & C.*

Woods. Sandlake. August.

If I understand this species correctly it often attains much larger dimensions than those given in the description. The tubes are at first whitish but in drying they change to a brown color. They become dingy-brown where bruised. The stem sometimes tapers downwards and is usually peronate and more or less annulate by the yellow veil. The pileus is reddish where the pulverulence has vanished. The plant is sometimes caespitose.

BOLETUS NIGRELLUS *n. sp.*

Pileus dry, minutely tomentulose, blackish; tubes plane or convex, scarcely depressed around the stem, small, unequal, subrotund, whitish, then tinged with pink; stem equal, short, even, colored like the pileus;

flesh white, unchangeable ; spores oblong, mostly narrowed toward one end, .0004'-.0005' long.

Plant 3'-4' high, pileus 3'-4' broad, stem 6"-10" thick.

Woods. Sandlake. August.

BOLETUS PECKII Frost n. sp.

Pileus dry, firm, minutely tomentulose, red, fading to buff-brown, the margin usually retaining its color longer than the disk ; tubes nearly plane, adnate or slightly decurrent, yellow, turning blue when wounded ; stem equal or subventricose, strongly reticulated, red, yellow at the top ; spores ochraceous-brown, oblong, .00035'-.0004' long.

Plant 3'-4' high, pileus 2'-3' broad, stem 3"-6" thick.

Ground in deciduous woods. Sandlake. August.

The stem is generally brighter colored than the pileus and retains its color longer. The species should be referred to the *Calopodes*.

BOLETUS GRISEUS Frost n. sp.

Pileus dry, firm, nearly smooth, gray or grayish black ; tubes nearly plane, adnate, sometimes slightly depressed around the stem, small, unequal, subrotund, white ; stem whitish or yellowish, strongly reticulated, often abruptly narrowed and yellow at the base ; flesh whitish or gray ; spores ochraceous-brown, oblong, .0004'-.0005' long.

Plant 3'-4' high, pileus 2'-4' broad, stem 6"-12" thick.

Deciduous woods. Sandlake. August.

The plants have a rather strong unpleasant odor. The color of the pileus is variable, but it is generally some shade of gray. The reticulations of the stem are finer at the top, coarser, elongated and somewhat compound toward the base, but in the dried specimens the finer reticulations at the top of the stem are the most distinct, the others becoming obsolete. My esteemed friend, Mr. Frost, finds a form which he considers a variety of this species, differing from the type in having the tubes flesh and stem yellow.

GUEPINIA HELVELLOIDES DC.

Decayed wood partly buried. Oneida. *Warne*.

Mr. Warne remarks that he has found it in but one limited locality, four or five feet square, and that its color when fresh is a very beautiful reddish-brown.

PHILEBIA PILEATA n. sp.

Pilei coriaceous, effuso-reflexed, more or less imbricated and laterally confluent, concentrically sulcate, zonate, subtomentose, purplish-brown ; hymenium a little paler, usually stained with red or orange on the margin, the folds crowded, radiating, frequently interrupted

behind and appearing like coarse papillae, when dry suffused with a dull tawny bloom; spores elliptical, colorless, .0003' long.

Dead branches of beech. Greig. September.

CORTICIUM SULPHUREUM Fr.

Decaying wood. Buffalo. Clinton.

EXOBASIDIUM CASSANDRE n. sp.

Gall a suborbicular thickened portion of the leaf, generally concave above, convex below, two to four lines in diameter, red or yellow, at length white pruinose on the lower surface; spores oblong, colorless, variable in size, .0002'-.0005' long.

Living leaves of *Cassandra calyculata*. Buffalo. Clinton. Sandlake. July. Perhaps this is only a form of *E. Vaccinii*.

MELANOGASTER AMBIGUUS Tul.

Clay banks. Poughkeepsie. Gerard.

PHALLUS DEMONUM Fr.

Shaded ground. Albany. September.

This is placed by some in a genus *Dictyophora*.

LYCOPERDON CONSTELLATUM Fr.

Fallen leaves under trees. Oneida. Warne. August.

This is a fine species, having, if possible, a more shaggy appearance than *L. pedicellatum* and *L. separans*. The spinous processes are either straight or curved. The color is a cervine brown, and scarcely changes in drying. (Plate 2, figs. 13 and 14.)

LYCOPERDON COLORATUM n. sp.

Peridium subglobose or obovate, sessile, six to ten lines in diameter, radiating, yellow or reddish-yellow, membranaceous, roughened with minute granular or furfuraceous warts; capillitium and spores pale, the latter globose, .00016'-.0002' in diameter.

Ground in bushy places. Sandlake. August.

The species is remarkable for the pale color of the capillitium and the yellow hue of the peridium.

CHONDRIODERMA MICHELII Lib.

Fallen leaves, grass and twigs. West Albany. September. (Plate 1, figs. 4-6.)

BADHAMIA HYALINA Pers. (Didymium simulans Howe.)

Ailanthus bark. Yonkers. Howe.

LAMPRODERMA PHY SAROIDES A. & S.

Decaying wood. Buffalo. Clinton. Indian Lake.

PHOMA NEBULOSUM Berk.

Dead nettle stems. Buffalo. Clinton. May.

CRYPTOSPORIUM CARICIS Ed.

Dead leaves of sedges. West Albany. May.

CRYPTOSPORIUM NOVEBORACENSE B & C.

Bark of hemlock. Markham Station. Clinton. May.

PECKIA Clinton nov. gen.

Perithecia carbonaceous, spheriform, glabrous; spores concatenate.

The strings of spores are nearly or quite colorless, sometimes branched in a retiform manner, sometimes involved in mucus. The character of the perithecia separates the genus from *Myrcormia*.

PECKIA SARRACENIÆ Peck & Clinton, n. sp.

Perithecia scattered or collected in small groups, sometimes seated on blackish spots, small, slightly prominent, black; strings of spores retiformly branched, spores oblong, narrow, colorless, .0003' long.

Dead leaves of pitcher plant, *Sarracenia purpurea*. Buffalo. Clinton.

PECKIA CLINTONII n. sp.

Perithecia scattered, prominent on both surfaces of the leaf, smooth, black; strings of spores involved in mucus; spores subquadrate, slightly tinged with green, .0002' long.

Decaying leaves of *Smilacina trifolia*. Buffalo. Clinton. April.

The strings of spores sometimes adhere to each other laterally. Sometimes there is the appearance of a spurious or divided endochrome in the spores. (Plate 2, figs. 6-9.)

SPILEROPSIS GALLÆ. (*Sphaeria Gallæ* Schw.)

Old galls and twigs of butternut, *Juglans cinerea*. Bethlehem.

The perithecia on the galls are so crowded that they appear to the naked eye to form a continuous black crust.

SPILEROPSIS PROPULLANS. (*Sphaeria propullans* Schw.)

Dead stems of *Celastrus scandens*. Greenbush.

VERMICULARIA CONCENTRICA P. & C. n. sp.

Perithecia small, black, beset with straight rigid bristles, concentrically placed on arid orbicular spots; spores oblong, slightly curved, pointed at each end, colorless, .0008'-.001' long.

Living leaves of *Trillium erythrocarpum*. Pine Valley. Clinton. July.

The tissues at length fall out from the affected spot, leaving apertures through the leaf. The perithecia are less regularly disposed near the center of the spots. Judge Clinton also sends a variety on leaves of *Viola rotundifolia* in which the concentric arrangement of the perithecia is not at all perceptible, but I detect no other difference.

DISCOSIA FAGINEA Lib.

Fallen beech leaves. Portville. September.

DISCOSIA RUGULOSA B. & C.

Leaves of hickory, *Carya alba*. Chautauqua Lake. Clinton.

MELASMIA ALNEA Lev.

Living leaves of alder, *Alnus serrulata*. Center. August.

SEPTORIA CERASINA n. sp.

Spots scattered or confluent, rather small, subangular, brown or reddish-brown; perithecia few, collapsed when dry, appearing as if margined, pallid or amber-colored; tendrils whitish; spores long, filiform, generally strongly curved, .002'-.003' long.

Lower surface of cherry leaves, *Prunus serotinus*. Lake Pleasant. August.

This is quite unlike *Phyllosticta sanguinea* Desm., as represented by specimens from the collection of that gentleman. Frequently only one perithecium occupies a spot.

SEPTORIA POLYGALÆ P. & C. n. sp.

Perithecia minute, scattered or clustered, black; spores filiform, slender, straight or slightly curved, .001'-.0016' long.

Dead leaves of *Polygala paucifolia*. Portage. Clinton. May.

SEPTORIA EMACULATA P. & C. n. sp.

Perithecia rather large, scattered, prominent, black; spores filiform, curved or flexuous, usually containing several nucleoli, .002'-.0035' long.

Pods and living leaves of *Lathyrus palustris*. Buffalo. Clinton. July.

The leaves are without spots. The perithecia appear on one or both surfaces.

SEPTORIA DIFFORMIS C. & P. n. sp.

Spots suborbicular, brown; perithecia crowded, black, amphigenous; spores profuse, linear, straight or curved, hyaline, .0006'

long, oozing out and covering the spots with a white or glaucous bloom.

Living leaves of *Vaccinium Pennsylvanicum*. Lake Pleasant. August.

SEPTORIA ULMI Kze.

Elm leaves. New Baltimore. Howe. Catskill mountains.

EXCIPULA LEUCOTRICHA n. sp.

Perithecia small, scattered, the disk plane or slightly convex, orbicular, elliptical or elongated, black, surrounded by a few long septate whitish hairs; spores fusiform, colorless, .0003'-.0004' long.

Dead grass leaves. West Albany. June.

The species is well marked by the pale delicate hairs of the perithecium.

DISCELLA MACROSPERMA n. sp.

Perithecia obsolete; mass of spores prominent, reddish-brown or blackish, pale when moist; spores oblong, straight or slightly curved, often narrowed toward one end, colorless, .0013'-.0016' long, .0004' broad, containing a granular endochrome.

Dead bark of willows. North Greenbush. July.

DISCELLA PLATANI n. sp.

Pustules small, erumpent, pallid; spores subelliptical or oblong, smooth, deciduous, colorless, .0003'-.0005' long.

Dead twigs of buttonwood, *Platanus occidentalis*. Bethlehem. May.

The sporophores rarely remain attached to the spores and these have no granular aspect as in *D. platyspora*.

DISCELLA KALMIE n. sp.

Pustules small, erumpent, at length blackish, the perithecia mostly deficient above and somewhat excipuliform; spores oblong-obovate, sometimes slightly curved, colorless, .0004'-.0006' long.

Dead stems of sheep laurel, *Kalmia angustifolia*. Sandlake. June.

MELANCONIUM PALLIDUM n. sp.

Stroma small, yellowish; spores oozing out in a blackish mass, separately pallid or almost colorless, ovate or oblong, often slightly curved and subcymbiform, .0006'-.0007' long.

Dead branches of *Carya alba*. West Troy. June.

The species is remarkable for the pale color of the spores. These sometimes contain two or three large nuclei. (Plate 1, figs. 7 and 8.)

SPORIDESMIUM CONCINNUM *Berk.*

Decaying wood. Markham Station. *Clinton*. May.

CLASTERISPORIUM UNCINATUM *Clinton n. sp.*

Thinly effused, blackish-brown; spores large, subfusiform, straight or curved, five to seven-septate, colored, .0016'-.002' long, tapering below into the pale or colorless septate short pedicel which is strongly curved, coiled or uncinatate at the narrowed base.

Lower surface of fallen oak leaves. Buffalo. *Clinton*. Nov.

The cells of the spores are often nucleate, and the terminal cell is sometimes truncate and paler than the others. The uncinatate base of the pedicel is a characteristic feature. (Plate 1, figs. 9 and 10.)

C. pedunculatum, which in a former report was referred to this genus, must be placed in the genus *Helminthosporium*. It becomes *H. attenuatum* C. & P.

PHRAGMIDIUM GRACILE *Grev.*

Leaves of *Rubus odoratus*. Bethlehem, Trenton Falls and Watkin's Glen. September.

This plant was formerly reported as a variety of *Phragmidium mucronatum*, but having compared it with authenticated European specimens of both forms of that species, I am satisfied that our plant is distinct. In the Uredo form the spots are more definite, the sori and spores are larger and the latter have a more coarsely-roughened epispore. In the Brand form the spores are longer and yet more narrow, the papillæ are more prominent and the mucro is generally longer and roughened.

PUCCINIA GENTIANÆ *Strauss.*

Leaves of *Gentiana Andrewsii*. Buffalo. *Clinton*. August.

PUCCINIA CALTHÆ *Lk.*

Leaves of *Caltha palustris*. Buffalo. *Clinton*. July.

PUCCINIA PHYSOSTEGLE *P. & C. n. sp.*

Spots none; sori evenly scattered, small, rotund, surrounded by the ruptured epidermis, blackish-brown; spores elliptical, scarcely constricted, .0014'-.0016' long, .0008'-.001' broad; pedicels short, slender.

Lower surface of leaves of *Physostegia Virginiana*. Strawberry Island. *Clinton*. August. (Plate 2, figs. 25 and 26.)

UROMYCES CLAYTONIÆ *C. & P. n. sp.*

Sori amphigenous, scattered, small, ovate or elliptical, brown; spores oval or elliptical, with a slight apiculus, .0013'-.0016' long, about .001' broad; pedicels slender, short, hyaline.

Leaves of *Claytonia Caroliniana*. Cold Spring. June.

USTILAGO CANDOLLEI *Tul.*

Heads of flowers of *Polygonum sagittatum*. Forestburgh. September.

The more even and darker colored spores separate this from *U. utriculosa*.

USTILAGO MONTAGNEI *Tul.* var. *major* *Desm.*

Heads of flowers of *Rhynchospora glomerata*. Long Island. *E. S. Miller*.

The larger size of the spores, with their remarkable pustules, serve to distinguish this from *U. Montagnei*, to which, as a variety, it is referred. I have thought it worthy of illustration. (Plate 1, figs. 11-12.)

COLEOSPORIUM OCHRACEUM *Bon.*

Leaves of *Agrimonia Eupatoria*. Greenport. July.

This is *Uredo Agrimonie* Schw. according to Dr. Curtis.

CYSTOPUS PORTULACÆ *DC.*

Leaves of purslane, *Portulaca oleracea*. Sandlake and Fishkill. August and September.

CYSTOPUS SPINULOSUS *De Bary.*

Leaves of Canada thistle, *Cirsium Canadense*. Buffalo. *Clinton*.

GRAPHIOLUM PHŒNICIS *Poit.*

Leaves of *Phœnix dissectifolia*. Conservatories, Buffalo. *Clinton*. May.

STILBUM VULGARE *Tode.*

Decaying wood. Sandlake. August.

STILBUM SMARAGDINUM *A. & S.*

Decaying wood. Markham Station. *Clinton*. May.

EPICOCUM NEGLECTUM *Desm.*

Decaying stems of Indian corn, etc. Buffalo. *Clinton*. North Greenbush. July.

The spores in our specimens often exceed the dimensions given in the description of this species.

ÆGERITA CANDIDA *Pers.*

Decaying wood. Grand Island and Sodus Bay. *Clinton*. October and November.

PERICONIA TRUNCATA *C. & P. n. sp.*

Scattered, black; stem rather thick, composed of loosely compacted

slender septate threads; capitulum expanded, truncate; spores elliptical, attenuated towards either end.

Dead branches of apple trees. Center. May.

PERICONIA CORTICALIS C. & P. n. sp.

Scattered, black; stem erect, rigid, composed of slender septate threads which are free at the apex forming a subglobose head and bearing at the tips minute globose spores, .00012' in diameter.

Bark of *Thuja occidentalis*. Adirondack Mts. July.

HELMINTHOSPORIUM OÖSPORUM Cld.

Dead stems of grape vines. Watkins. September.

HELMINTHOSPORIUM EPISPILÆRICUM C. & P. n. sp.

Flocci rather long, tufted, slender, flexuous, septate, rarely branched, blackish-brown; spores oblong-clavate, three to four septate, .002'-.003' long, truncate at the apex, the second and third cells from the top generally more highly colored than the others.

On some effete Diatrype. Albany. August. (Pl. 2, figs. 18-20.)

CERCOSPORA CALLÆ P. & C. n. sp.

Spots definite, narrow, oblong, pallid; flocci amphigenous, minutely tufted, short, flexuous, somewhat nodulose, not at all or indistinctly septate, slightly colored, cinereous or subolivaceous in the mass; spores colorless, terminal, at first simple, then elongated and one to five-septate, nearly straight, cylindrical or obclavate, .001'-.003' long.

Living leaves of *Calla palustris*. Buffalo. Clinton. August.

PERONOSPORA PYGMÆA Ung.

Leaves of *Anemone Pennsylvanica*. Bethlehem. May and June.

PERONOSPORA EFFUSA Grev.

Leaves of *Chenopodium album*. West Albany. August and Sept.

RAMULARIA NEMOPANTHIS C. & P. n. sp.

Spots brownish, rather irregular; flocci hypophyllous, fasciculate, short, delicate; spores fusiform or cylindrical, .0008' long, .0002' broad.

Living leaves of *Nemopanthes Canadensis*. Buffalo. Clinton. Kasoag. July.

POLYACTIS PULVINATA B. & C.

Dead trunks and branches of alders. Center. October.

OIDIUM LEUCOCONIUM Desm.

Living rose leaves. Conservatories, Buffalo. Clinton.

Wild rose leaves. West Albany. July and November.

Judge Clinton remarks that the fungus curls and kills the leaves of the cultivated roses. The fungus is now regarded as a state of *Sphaerotheca pannosa*, the perfect condition of which we have not yet seen.

STYSANUS STEMONTIS *Cl.*

Fallen leaves of *Amelanchier Canadensis*.

Our specimens do not fully agree with the description and are therefore referred here with some hesitation. The stem is black and has a decidedly swollen or bulbiform base so that, after the spores have fallen, the plant might readily be taken for a *Sphaeria* with a long subulate ostiolum.

DACTYLIIUM ROSEUM *Berk.*

On apples. Albany. November.

The apples were first attacked by *Spilocaea Pomi*, then on these affected spots this fungus appeared, forming a whitish, scarcely roseate, effused pulverulent mass.

FUSISPORIUM PHYLLOGENUM *C. & P. n. sp.*

Hypophyllous, collected in suborbicular spots; flocci fasciculate, simple or branched, nodulose; spores cylindrical, curved, three to seven-septate, colorless, .0025'-.003' long.

Living leaves of *Erigeron annuum*. Bethlehem. October.

FUSISPORIUM PARASITICUM *n. sp.*

Flocci delicate, tufted, sometimes branched, white; spores unequal in length, three to five-septate, straight or curved, usually pointed at one end and obtuse at the other, colorless, .0012'-.002' long.

On *Sphaeria Collinsii*. Center. July.

ZYGODESMUS HYDNOIDES *B. & C.*

Decaying wood. Buffalo. Clinton. September.

CILETOMIUM FUNICULUM *Cl.*

Old broom. Albany.

The specimens are old and without asci and are to this extent doubtful, but they appear to belong here.

UNCINULA GENICULATA *Ger.*

Leaves of *Morus rubra*. Poughkeepsie. Gerard. September.

GEOGLOSSUM NIGRITUM *Pers.*

Marshy ground in woods. Greig. September. (Plate 1, figs. 20-22.)

Externally this species resembles *G. Peckianum*, from which it is

separated by its spores paraphyses and somewhat porous club. From *G. glabrum* it is at once distinguished by its glabrous stem and the longer, not moniliform, terminal joints of the paraphyses. Its spores scarcely differ from those of *G. glabrum* except in being more narrow.

The spores of *G. glabrum* having been described in the Handbook as three to four-septate, I was led to consider a similar plant with seven-septate spores as distinct and described it in the 25th Report under the name *Geoglossum simile*. But the description on which I relied proves to have been erroneous, and the spores of *G. glabrum* have since been published as seven septate, so that *G. simile* of the 25th Report becomes a synonym of *G. glabrum*.

The application of the specific name *glabrum* to the plant designated by it is unfortunate and liable to mislead the student, for the stem is covered by a kind of minutely-tufted tomentum of matted septate filaments, which, with the projecting masses of spores from the mature club, give the plant a scarcely less hairy aspect than that of *Geoglossum hirsutum*.

PEZIZA IMPERIALIS n. sp.

Bright sulphur-yellow; cups irregular, six to twelve lines broad, often split on one side, with the margin incurved, externally pruinose-tomentose, the disk glabrous, becoming slightly orange-tinted in drying; stem thick, somewhat lacunose, usually narrowed at the top, four to eight lines high; asci cylindrical; spores elliptical, .0004' long, .0002' broad; paraphyses filiform, slightly thickened at the top.

Ground in woods. Greig. September.

In consequence of the bright color the plant is quite showy. The external pruinosity is due to the presence of a minute tomentum. The species is apparently allied to *P. sordescens* B. & C., but unless that species is badly described our plant must be distinct. (Plate 1, figs. 13-15.)

PEZIZA GRISEO-ROSEA Ger.

Ground in woods. Knowersville and Sandlake. July and August.

PEZIZA ALBOSPADICEA Grev.

Ground in woods. Sandlake. August.

PEZIZA BRONCA n. sp.

Cups gregarious or crowded, sessile, subhemispherical, four to nine lines broad, whitish or very pale-buff, externally roughened by small crowded whitish warts; asci cylindrical; spores elliptical, one to two-nucleate, .0008'-.0009' long, .0005' broad.

Ground. Knowersville and Sandlake. July and August. (Plate 2, figs. 10-12.)

PEZIZA LONGIPES *C. & P.*

Petioles of fallen leaves. Memphis. August.

PEZIZA AGROSTINA *n. sp.*

Cups scattered, small, .02'-.03' broad when dry, sessile, hemispherical or subglobose, externally hairy, of a dull pinkish hue, the hairs of the margin bent inwards when moist, usually with longer subulate whitish points, the others not subulate, often rough and more or less septate; disk pallid or cream-colored; asci cylindrical; spores subcylindrical, .00025'-.0003' long; paraphyses broad, longer than the asci, tapering upwards to a point.

Dead stems of *Calamagrostis Canadensis*. West Albany. June.

The peculiar paraphyses indicate an alliance with *P. apala*, *P. brunneola*, etc. The species belongs to the *Dasycephue*.

PEZIZA SUBTILISSIMA *Ch.*

Dead branches of pine. West Albany. July.

PEZIZA VIRGINELLA *Ch.*

Fallen leaves. Center. May.

PEZIZA PINASTRI *C. & P.*

Dead pine leaves adhering to cut branches. Center. May.

PEZIZA THALICTRI *n. sp.*

Cups abundant, sessile, bursting through the epidermis, small, punctiform when dry, externally black, the margin usually whitish or cinereous and subfimbriate; disk cinereous; asci oblong; spores crowded, elongated, simple or multinucleate, .001'-.0012' long, .0002' broad.

Base of dead stems of *Thalictrum cornuti*. Center. May.

When moist the cups expand, revealing the disk. The substance is then so much swollen that the black exterior breaks up into small scales, giving a scabrous appearance to the cups. The species should be referred to the section *Mollisia*.

HELOTIUM SAPROPHYLLUM *C. & P. n. sp.*

Minute, stipitate, ochraceous; cups plane; stems slender, slightly thickened upwards, as long as or longer than the diameter of the cup; asci sublanceolate; spores lanceolate or somewhat clavate, biseriate, one to two-nucleate, .0008' long, .00025' broad.

Fallen leaves. Lake Pleasant. August.

The species is closely related to *H. fastidiosum* but is smaller throughout.

HELOTIUM HYDROGENUM *n. sp.*

Gregarious or scattered, sessile, smooth, externally brownish; disk nearly plane, margined, pallid or yellowish, becoming tinged with brown or green in drying; asci subclavate; spores subcylindrical, slightly curved, often containing several minute nuclei, .0005'-.0006' long.

Decaying wood lying in water. Sandlake. July.

The plants on the upper surface of the wood have the disk more yellow than those just at or beneath the surface of the water. They were associated with *Mitridia paludosa* and *Vibrissia Truncorum*.

ASCOBOLUS FURFURACEUS *Pers.*

Excrement of cattle. Buffalo. Clinton. Sandlake and West Albany. July and August.

When fresh the cups have a beautiful greenish-yellow color.

ASCOBOLUS CILIATUS *Schm.*

Excrement of cattle. Buffalo. Clinton. November.

TYMPANIS GYROSA *B. & C.*

Dead branches of apple tree. Silver Lake. Clinton. June.

BULGARIA PURPUREA *Fckl.*

Decaying wood. Poughkeepsie. Gerard. Buffalo. Clinton. Greig, East Worcester and Catskill Mts. July to September.

The long spores, .0006'-.001', separate this from *B. sarcoides*.

STICTIS VERSICOLOR *Fr.*

Dead branches and decaying wood. Buffalo. Clinton. West Troy. July.

STICTIS FILICINA *n. sp.*

Pustulate, erumpent, surrounded by the lacerated epidermis; disk plane or concave, pallid or cream-colored; spores filiform, .0016'-.002' long.

Dead stems of *Osmunda cinnamomea*. Center. May.

The pustules are numerous and brownish at first. The covering epidermis is at length lacerated, the numerous narrow suberect laciniae retaining their brownish hue.

HYPOCREA CHROMOSPERMA *C. & P. n. sp.*

Fleshy, soft, convex, orbicular, one to two lines broad, flattened and patellate when dry, whitish or watery tan-color; ostioli slightly prominent; asci cylindrical; spores quadrate-globose, brownish when mature, .00016'-.0002' in diameter.

Decaying wood. Buffalo. *Clinton*. Greenbush and Croghan. July to September.

The colored spores are a noticeable feature.

HYPOCREA PATELLA C. & P. n. sp.

Fleshy, patellate, discoid, one to two lines broad, pale ochraceous; asci cylindrical; spores globose, sixteen, hyaline, .00012'-.00016' in diameter.

Decaying wood. Buffalo. *Clinton*. March and April.

This plant resembles externally some species of *Helotium*. The ostiola are smaller and less prominent than in the preceding species.

HYPOCREA RUFA Fr.

Dead alders. Center.

HYPOCREA APICULATA C. & P. n. sp.

Fleshy, soft, growing in irregular patches, smooth, ochraceous inclining to orange, the extreme margin barren; asci cylindrical; spores fusiform, with an apiculus at each extremity, uniseptate, colorless, .0011'-.0015' long, .0003'-.0004' broad.

Ground and rocks. Catskill Mts. and Sandlake. June to August.

The color of the ostiola in this species is variable, ranging from amber to orange.

HYPOMYCES TRANSFORMANS n. sp.

Subiculum effused, variable in color, pallid, golden-yellow, ochraceous or brick-red; perithecia ovate or subglobose, papillate, sunk in the subiculum; ostiola prominent, obtuse, amber or orange; asci cylindrical; spores fusiform, apiculate at each end, somewhat rough, simple or rarely with the endochrome obscurely divided, colorless, .0013'-.0015' long.

Parasitic on *Cantharellus cibarius*, which it transforms into an irregular mass. Sandlake. August.

The spores of *Hypocrea apiculata* resemble those of this and other species of *Hypomyces*, but the plant is not "parasitic on fungi," an essential character in the genus *Hypomyces* as at present defined. Neither do its spores agree well with the spore-character of the genus *Hypocrea* to which the species is referred, so that the plant must be regarded as an aberrant species intermediate between the two genera. It therefore becomes a question whether the two genera are well separated and whether they ought not to be reunited.

MELOGRAMMA SUPERFICIALIS P. & C. n. sp.

Stroma superficial, depressed, one to two lines broad, pale or yellowish within; perithecia unequal, more or less irregular, crowded,

depressed, blackish-brown or black; asci very broad, varying from subglobose to oblong-clavate, fugacious; spores oblong, obtuse, fenestrate, slightly constricted at the center and appearing uniseptate, .001'-.0013' long.

Bark of living mountain ash, *Pyrus Americanus*. Buffalo. Clinton. May.

DOTHIDEA FILICINA Fr.

Dead stems of *Pteris aquilina*. Center. May.

The spores in our specimens are oblong-fusiform, triseptate, .001'-.0012' long, either with or without a hyaline appendage at each end.

DIATRYPE SMILACICOLA Schw. (*Hypoxylon Smilacicola* Howe.)

Dead stems of Smilax. Yonkers. Howe.

DIATRYPE CEPHALANTHII Schw.

Dead stems of *Cephalanthus occidentalis*. Buffalo. Clinton. July. Catskill.

It belongs to the section *Diatrypella*.

DIATRYPE ADUSTA C. & P. n. sp.

Pustules small, slightly elevated, subconical, blackish, covered by the epidermis which is pierced by the very small disk; stroma white; ostiola few, small, black; asci cylindrical; spores uniseriate, simple, elliptical, colored, .0007'-.0009' long.

Dead branches. New Baltimore. Howe.

VALSA TRICHISPORA C. & P. n. sp.

Small, pustulate; stroma cortical, pale ochraceous as well as the erumpent disk; perithecia few, dark-brown when mature; ostiola exerted, quadrisulcate; asci clavate; spores filiform, hyaline, five to seven-septate, .0024' long, .0001' broad.

Dead twigs of oak. Greenbush.

It looks like a miniature *Valsa leiphemia*.

VALSA TUMIDULA C. & P. n. sp.

Erumpent, piercing the elevated discolored cuticle, ultimately exposing the blackened disk; perithecia four to six, semi-immersed in the wood, circumscribed by a black line; ostiola obtuse, quadrisulcate; asci clavate; spores linear, straight or curved, obtuse, hyaline, .0004'-.0005' long.

Dead branches of *Cratægus*. Garrisons. June.

VALSA CINCTULA C. & P. n. sp.

Pustulate; perithecia few, clustered, black; ostiola cylindrical, thick, piercing the whitish disk which encircles them with an irregular white ring; asci clavate; spores fasciculate, linear, multinucleate, at length three to seven-septate, .0024' long, .0002' broad.

Dead branches of chestnut. Guilderland. May. (Plate 2, figs. 21-24.)

VALSA FRAXINICOLA C. & P. n. sp.

Pustulate, perforating the epidermis; perithecia ovoid, black, circling; ostiola rather long, convergent, somewhat quadrisulcate; asci clavate; spores minute, sausage-shaped, crowded at the apex of the asci.

Ash branches. Tyre. September.

VALSA LINDERÆ n. sp.

Pustules small, rather prominent, crowded or scattered, closely surrounded by the ruptured epidermis, circumscribed by a black line; ostiola crowded, short, dull black, obliterating the blackish disk; perithecia usually four to six, nestling in the inner bark; asci slender, clavate; spores eight, yellowish in the mass, cylindrical, curved, obtuse, .0003'-.0005' long.

Dead branches of the spice bush, *Lindera Benzoin*. Albany. July.

VALSA LEPTASCA P. & C. n. sp.

Subpustulate, blackish, erumpent; perithecia small, numerous, tapering above into the papillate or subconical ostiola; asci elongated, cylindrical, slender; spores uniseriate, simple, oblong or elliptical-oblong, usually binucleate, colorless, .0003' long.

Dead branches of *Rhus typhina*. Buffalo. Clinton. July and August.

Sometimes the pustules are confluent or effused, in which case the plant might be taken for a *Sphaeria*.

SPHERIA COLLINSHII Schw.

Leaves of *Amelanchier Canadensis*. Center. May.

This remarkable *Sphaeria* was found in considerable quantity in the locality mentioned. It attacks all the leaves on an affected branch, and even the branch itself gives indications of the presence and influence of the fungus. It is more or less contorted, swollen and deflected toward the ground. The upper surface of the leaves assumes a dark-green or lurid hue, the lower surface being wholly occupied by matted filaments, the subiculum of the *Sphaeria*. This

is at first olive-brown in color, but at length black spots appear upon it. These gradually enlarge until the whole surface becomes black. With this change in the color of the subiculum, the perithecia appear, but they do not, apparently, perfect their spores until the following spring, spore-bearing specimens having been found in May. The affected leaves adhere to the branch during the winter and the early part of the following summer. These dry leaves, when seen among the surrounding green leaves that put forth before these have fallen, together with the drooping branch that bears them, are deceptively imitative of dead leaves on a branch that has been broken down but still adheres by a shred to the parent trunk. The young fungus commences its growth before the old one of the previous year has disappeared. I have taken from the same tree, at the same time, old leaves bearing the mature *Sphaeria*, and young leaves bearing the subiculum and young perithecia of the succeeding crop. The fungus does not appear to kill the branch it attacks.

As Schweinitz does not describe the fruit of this fungus I subjoin the following description of its characters:

Asci cylindrical; spores uniseriate, abruptly narrowed at one end and divided by an obscure septum into two very unequal parts, colorless, .0004'-.0005' long.

This fungus is manifestly closely allied to *Sphaeria morbosa*, which some European mycologists have referred to the genus *Cucurbitaria*, but as the erumpent character of the *Cucurbitariæ* is not present in *S. Collinsii*, the species is left where Schweinitz placed it.

SPHERIA (VILLOSA) CÆSARIATA C. & P. n. sp.

Perithecia gregarious, about .012' in diameter, subglobose, papillate, black, shining, beset with scattered erect rigid septate black hairs; asci cylindrical or clavate; spores biseriate, narrowly fusiform, five to seven-septate, greenish, .0015'-.0017' long, each cell nucleate.

Decaying wood. Portville. September.

SPHERIA (VILLOSA) LEONINA C. & P. n. sp.

Perithecia subconfluent or rarely scattered, dark-brown, oval, covered with a short thick tawny-orange tomentum, the papillate apex naked; asci clavate or cylindrical; spores biseriate, lanceolate, uniseptate, constricted, at length triseptate, brown, .0014'-.0015' long; paraphyses slender, filiform.

Cut surface of wood. Portville. September.

SPHERIA FIMETI Pers.

Horse dung. Sandlake. July.

SPILERIA OBDUCENS Fr.

Ash branches. Bethlehem. June.

SPHÆRIA SPERMROIDES Hoffm.

Decaying wood. Buffalo. Clinton. May.

SPHÆRIA (DENUDATE) SALEBROSA C. & P. n. sp.

Perithecia gregarious or crowded, globose, rough, black, depressed and umbilicate, pierced at the apex and faintly radiately sulcate, .02'-.03' broad; asci cylindrical or clavate; spores lanceolate, acute uniseptate, constricted at the septum, brown, .0014'-.002' long, .0003'-.0004' broad; paraphyses numerous, filiform.

Dead stems of shrubs. Center. October.

SPHÆRIA (DENUDATE) RECESSA C. & P. n. sp.

Perithecia gregarious, at first semi-immersed, smooth, flattened, dark-brown or black, .012' broad; asci subclavate; spores one or two-seriate, elliptical, uniseptate, deeply constricted at the septum, colorless, .0005'-.0008' long, .00025'-.0004' broad.

Decaying wood. Tyre. September.

The perithecia have a somewhat discoid appearance.

SPHÆRIA (DENUDATE) SQUALIDULA C. & P. n. sp.

Perithecia gregarious, globose, semi-immersed, pierced at the apex, about .012' broad, black; asci cylindrical; spores uniseriate, elliptical, simple, binucleate, colorless, .0005'-.0007' long.

Decaying chestnut wood. Portville. September.

SPHÆRIA (DENUDATE) INTERSTITIALIS C. & P. n. sp.

Perithecia gregarious, at first semi-immersed, always apparently so by nestling between the fibres of the wood, subglobose, pierced at the apex, black, .012'-.02' in diameter; asci cylindrical; spores uniseriate, polymorphous, triseptate, with occasional vertical septa, deeply constricted, brown, .0012'-.0014' long, .0005'-.00065' broad.

Decorticated wood of cherry. Greenbush. November.

SPHÆRIA EXILIS A. & S.

Decaying wood. Markham Station. Clinton. May.

SPHÆRIA SPICULOSA Pers.

Dead branches. North Greenbush. July.

SPHÆRIA OBTUSISSIMA B. & C.

Decaying maple wood. Sandlake. July.

I depend upon specimens received from the late Dr. Curtis for the validity of this determination as I have seen no description of the species.

SPHÆRIA (OBTECTÆ) CEANOETHINA *n. sp.*

Perithecia small, scattered or rarely two or three crowded together, smooth, subglobose; ostiola piercing the epidermis, somewhat rugged, often curved or deformed; spores crowded or biseriate, oblong, obtuse, sometimes curved, colorless, .0005'–.0006' long.

Dead stems of *Ceanothus Americanus*. Center. May.

SPHÆRIA (OBTECTÆ) MELANTERA *n. sp.*

Perithecia gregarious, minute, covered by the blackened epidermis; asci linear; spores crowded or biseriate, oblong or subfusiform, triseptate, slightly constricted at the septa, colored, .0005'–.0007' long.

Dead stems of raspberry, *Rubus strigosus*. Center. May.

SPHÆRIA (CAULICOLÆ) FULGIDA *C. & P. n. sp.*

Perithecia gregarious, sometimes disposed in lines, soon free, globose, black, smooth, shining, scarcely papillate, .01'–.012' in diameter, at length collapsed; asci clavate or cylindrical; spores filiform, curved or flexuous, multinucleate, at length multiseptate, colorless, .003' long.

Dead stems of herbs. Albany. May.

This is allied to *S. rubella*, *S. acuminata*, *S. Bardane* and *S. Urtice*.

SPHÆRIA (CAULICOLÆ) SMILACININA *n. sp.*

Perithecia abundant, minute, at first covered by the thin often blackened epidermis, slightly prominent; asci cylindrical or subclavate; spores crowded, ovate or unequally elliptical, pale greenish-yellow, .0005'–.0006' long, usually containing a single large nucleus.

Dead stems of *Smilacina stellata*. Center. May.

SPHÆRIA (CAULICOLÆ) MINUTELLA *n. sp.*

Perithecia minute, somewhat flattened, black, the upper part at length breaking away leaving the base attached to the matrix; asci sublanceolate; spores oblong, simple, colorless, .0003' long.

Dead stems of herbs. North Greenbush. June.

SPHÆRIA CULMIFRAGA *Desm.*

Dead stems of grass. Watkins. September.

SPILERELLA COLORATA *n. sp.*

Spots orbicular, small, scattered or rarely confluent, reddish-brown, usually with a darker margin; perithecia minute, black, epiphyllous; asci cylindrical; spores cylindrical or subfusiform, uniseptate, colorless, .0006'–.0007' long.

Living leaves of sheep laurel, *Kalmia angustifolia*. Center. July.

The spots are more distinctly margined on the upper than on the lower surface of the leaf. They are sometimes greyish. Plate 2, figs. 15-17.)

(5.)

PLANTS PREVIOUSLY REPORTED—REMARKS AND
OBSERVATIONS.

The first twelve species of fungi here given were reported without description. They are now repeated with descriptions.

DOTHIDEA CLAVISPORA. (*Hysterium clavisporum* C. & P.).

Stroma small, oblong, elliptical or linear, at first covered by the epidermis, then erumpent, longitudinally striate under a lens, black; asci clavate; spores crowded, clavate, multiseptate, colored, .001'-.0013' long.

Dead stems of *Phragmites communis*.

The fungus frequently grows in long lines or series. Mature fruit-bearing specimens especially occur on the older and more discolored stems. The septa are from five to nine, the intervals between them being very short. The basal cell is usually the longest.

HYSTERIUM EXARIDUM C. & P.

Superficial, seated on irregular bleached spots; perithecia elliptical, minutely rugose, opaque, black; lips elevated, paler, connivent; asci clavate; spores filiform, hyaline.

Fallen leaves of *Kalmia angustifolia*.

COLPOMA JUNIPERINUM C. & P.

Perithecia gregarious, oblong or elliptical, sometimes slightly elongated and flexuous, covered by the epidermis which is ultimately ruptured in an irregular manner, blackish, disk pallid, at length exposed; asci clavate; spores filiform; paraphyses slender, filiform, at first curved or circinate at the tips.

Bark of *Juniperus Virginiana*.

DIATRYPE MOROIDES C. & P.

Rather small, erumpent, the disk at length obliterated by the crowded somewhat prominent hemispherical black ostiola; perithecia crowded, blackish; asci cylindrical; spores uniseriate, oblong, uniseptate, colored, .0005'-.0006' long, about .0002' broad.

Dead alders.

VALSA BICINCTA C. & P.

Eruptent; stroma dirty-white, mealy; perithecia six to ten, subglobose, disposed in circles, black; ostiola elongated, convergent; disk whitish, surrounded by a black line, at length obsolete; asci cylindrical; spores biseriate, fusiform, four-nucleate, .0004'-.0005' long.

Dead branches of *Juglans cinerea*.

The spores in dried specimens sometimes have the appearance of being uniseptate or even triseptate from the division of the endochrome.

LOPHIOSTOMA TURRITUM C. & P.

Perithecia subgregarious, emergent, prominent, subglobose, black, with broad compressed truncate necks; ostiola elongated; asci cylindrical or clavate; spores oblong-elliptical, five-septate, brown, .0008'-.0009' long.

Dead willow branches.

The turret-shaped perithecia give a spinulose appearance to the twigs. The lips of the compressed ostiola are linear as in *Hysterium*.

LOPHIOSTOMA MAGNATUM C. & P.

Perithecia subgregarious, semi-immersed, globose, rather large, somewhat thin and fragile, pitchy-black; ostiola short, compressed; asci cylindrical or clavate; spores biseriate, lanceolate, constricted in the center, three to five-septate, .002'-.0023' long.

Decaying wood. It some resembles *L. macrostomum* in habit.

SPHERIA (VILLOSE) MUTANS C. & P.

Perithecia rather large, .026'-.036' broad, gregarious or crowded, globose, papillate, black, at first clothed with a thin tawny evanescent tomentum, at length naked, smooth, shining; asci subcylindrical; spores uniseriate, elliptical, brown, .0004'-.0005' long.

Decaying wood.

The species is allied to *S. mutabilis* Pers.

SPHERIA (VILLOSE) VIRIDICOMA C. & P.

Perithecia eruptent, then superficial, two or three together, ovate, black, clothed with a dense greenish tomentum, .03'-.04' broad; ostiola thick, prominent, naked; asci clavate or cylindrical; spores one to two-seriate; lanceolate, uniseptate and four-nucleate or triseptate, deeply constricted at each septum, colorless, .0013'-.0018' long, .0003'-.0004' broad.

Decaying beech wood and branches.

The two central cells of the spores are nearly globose.

SPHERIA (CAULICOLÆ) SEMEN *C. & P.*

Perithecia soon free, globose, clustered, pierced at the apex, black; asci clavate or cylindrical; spores biserial, lanceolate, straight or curved, triseptate, deeply constricted in the center, colorless, .0012'-.0013' long.

Fallen petioles of mountain ash, *Pyrus Americana*.

SPHERIA (CAULICOLÆ) SUBCONICA *C. & P.*

Perithecia conoid, flattened at the base, somewhat collapsed when dry, seated beneath the epidermis which is at length thrown off, black; asci cylindrical; spores triseptate, brown, .0012' long, .0003' broad.

Dead stems of herbs.

It resembles *S. Doliolum* in habit, but differs in fruit.

SPHERIA (CAULICOLÆ) RACEMULA *C. & P.*

Perithecia caespitose, rugose, small, flattened, black, at length collapsed, separating with the epidermis which is pierced by the elongated ostiola; asci clavate, sessile; spores narrowly lanceolate, colorless, four-nucleate, .0006' long.

Dead stems of *Epilobium angustifolium*.

AZALEA VISCOSA *L.*

This beautiful shrub has been found in the town of Schodack, Rensselaer county by *Rev. H. Wibbe*.

ARCEUTHOBium PUSILLUM *Pk.*

Mrs. L. A. Millington informs me that she has found this parasite growing on upland spruces, so that it is not limited to those growing in and around marshes.

RUMEX ENGELMANNI *Leдеб.*

Grassy grounds. Albany. *Prof. J. Hall*.

SCIRPUS MARITIMUS *L.*

Fine specimens were collected near Syracuse by *Mrs. Rust*.

BOTRYCHUM MATRICARIEFOLIUM *A. Braun.*

Lewis county. *Mrs. Barnes* and *W. W. Hill*.

In the development of a science like Mycology it is not possible wholly to avoid mistakes and the necessity of changes in names and arrangement. Recent European publications enable me to make some corrections in the nomenclature of previous reports.

AGARICUS NAUCINUS Fr.

In the new edition of *Epicrisis* this species is described as having *globose spores*; it therefore becomes necessary to regard as a distinct species the plant reported under this name in the 23d Report, p. 72. I propose for it the name *Agaricus (Lepiota) naucinoides*, and add to the description already given the following: *Spores subelliptical, .0003'-.00035' long, .0002'-.00025' broad, generally with a single large nucleus.*

The difference in the spores, the smoother pileus and absence of an umbo will separate this from *A. naucinus*.

There is also another closely related species, *A. Schulzeri* Kalebh., which is said to have *ovate spores*, a small annulus, an umbonate pileus and a nauseous taste, characters by which it may be readily distinguished from our plant. *A. laevis* Krombh., and *A. cretaceus* Fr., are also liable to be confused with this plant if the spores be neglected, the former being distinguished by its rosy or flesh-colored spores, the latter by its brown spores. Thus it appears that there are five species that are not easily separated except by their spore characters; a strong indication of the importance of publishing these characters with the descriptions of species.

AGARICUS PONDEROSUS Pk. Report 26, p. 50.

This name being preoccupied is changed to *Agaricus magnivelaris* Pk.

AGARICUS COPRINOIDES Pk. Report 26, p. 59.

This name also has been applied to a European species and I would therefore name the American plant *Agaricus plicatellus* Pk.

AGARICUS LILACINUS Pk. Report 24, p. 63.

This, too, is applied in Europe to a different species. I would therefore substitute for it the more appropriate one, *Agaricus lilacifolius* Pk.

PLICATURA ALNI Pk.

In the first edition of *Epicrisis* the genus *Trogia* is limited to coriaceous Agaricini having the lamellæ or folds longitudinally channelled on the edge. In the Handbook of British Fungi the generic character of *Trogia* is so modified as to include species with *crisped* lamellæ, and *Cantharellus crispus* is referred to this genus. Also, in the second edition of *Epicrisis* the phrase "in spec. Europæa modo crispæ" is parenthetically inserted in the generic description of *Trogia* and *C. crispus* becomes *Trogia crispa*. If this classification is to be adopted and followed then *Plicatura Alni* must be changed to *Trogia Alni*. The reasons for its adoption are twofold. First it is the arrangement of the venerable Fries, the life-long student of fungi, who probably has no equal in the knowledge of the Agaricini

and in the ability to judge concerning the value of their characters and their proper classification; second, the unnecessary multiplication of genera founded on slight differences is to be deprecated.

BOLETUS RETIPES *B. & C.* Report 23, p. 132.

As soon as the characters of this species were published by Rev. M. J. Berkeley, it became evident that the plant I had hesitatingly referred to it and described in the location cited was distinct. There is no pulverulence to our plant nor does it have "pilei arising from a common base." I would, therefore, give it the name *Boletus ornaticipes*. Either this or a closely related form is regarded by my friend, Mr. C. C. Frost, as a variety of *B. griseus*, but the yellow flesh and the tubes, which are also yellow from the first, indicate to my mind a specific difference. It is by having respect to such a difference in color that the whole genus has been divided into primary series, and it hardly seems fitting to throw together, as varieties of one species, forms thus separated.

THELEPHORA PALLIDA *Schw.*

This name, being preoccupied, must be changed. I would substitute for it, *Thelephora Schweinitzii*.

PUCCINIA TIARELLÆ *B. & C.* Report 25, p. 115.

Since the publication of this species, for the authenticity of which I depended upon specimens received from the late Dr. Curtis, Rev. Dr. Berkeley has published in Grevillea, 1874, p. 53, under the same name, a species which is clearly quite different. He also finds *Puccinia Saxifragarum* on *Tiarelia* leaves. Neither can this be our plant, for *P. Saxifragarum* has its spores much broader and more obtuse. In view, therefore, of the peculiar circumstances attending the publication of these two species under the same name, I deem it the most courteous, if not the most correct way, to drop the name *P. Tiarellæ* from its connection with the plant described in the 25th Report, and substitute for it the name *Puccinia spreta* Pk., thus leaving *P. Tiarellæ* *B. & C.* for the species to which it has been applied by Dr. Berkeley.

UROMYCES PELTANDRÆ *Howe.*

Some account of the synonymy of this species seems desirable. In the synopsis of the Fungi of North Carolina, Dr. Schweinitz describes a fungus under the name *Uredo Caludii*, giving *Caladium* as its habitat. In his Synopsis of North American Fungi, he changes the name of this fungus to *Uredo Ari-Virginici*, adding the remark, perhaps as a reason for the change, "it is not *Caladium* but *Arum* on which it is found frequently." This remark admits of two interpretations depending upon the stress given to the last word. He may have found the fungus at first on *Caladium* and afterwards more frequently on *Arum*, or he may at first have mistaken the host plant, *Arum*, for *Caladium*, in which case the remark must have been

intended as a correction of that mistake, the word "frequently" being simply an additional idea. The latter appears to me to be the most natural interpretation. He does not mention the particular species in either case, but from the context it appears that the *Caladium*, real or supposed, was our present *Peltandra glauca*, and the *Arum*, our *Peltandra Virginica*. However this may be, the fungus inhabiting the latter plant was regarded as Schweinitz's species until Dr. Howe described it under the name *Uromyces Peltandrae*, and thus indicated more correctly its generic relations. He subsequently substituted the specific name *Ari-Virginici* for *Peltandrae*, but the law of priority works badly in this case, for the oldest name, *Caladii*, is manifestly inappropriate and was discarded by Schweinitz himself, and against the other there is, in the minds of some, an objection because of its compound character. *Uromyces Pontederiae* Ger. is, according to specimens received from Mr. Gerard, on *Peltandra* leaves and not distinct from *U. Peltandrae*.

Until recently the *Uromyces* inhabiting the leaves of *Arisæma triphyllum* was considered specifically the same as the one on *Peltandra* leaves. Dr. M. C. Cooke has separated a form of this, in which the sori are clustered in spots, under the name *Uromyces Arisæmæ*. I am satisfied that this is not specifically distinct from the other form in which the sori are more evenly scattered over the whole surface of the leaf. There is no constant difference in the spores, and both forms manifestly run into each other in habit. Nor is there, in my opinion, any just ground for the separation of either from *U. Peltandrae* except perhaps as a variety, for the only appreciable differences I find between them are now and then a spore in the form on *Peltandra* leaves which slightly exceeds in size any that I find on *Arisæma* leaves and a greater tendency in the former to occupy the lower surface of the leaf, while in the latter there seems to be a greater tendency to occupy the upper surface. But both are frequently amphigenous in habit. I regard the following as the synonymy of the species:

<i>Uredo Caladii</i> Schw.	Synopsis Fung. Car.	No. 480.
<i>Uredo Ari-Virginici</i> Schw.	Synopsis N. A. Fung.	No. 2839.
<i>Uredo</i> " "	Rav. Fung. Car. Exsic. Fasc. IV.	No. 96.
<i>Uredo</i> " "	Curtis Cat. N. C. Plants,	p. 122.
<i>Uredo</i> " "	N. Y. Cab. Rep.,	23, p. 57.
<i>Uromyces Peltrandrae</i> Howe.	Bull. Torr. Club.	1874, p. 3.
<i>Uromyces Ari-Virginici</i> Schw.	" " "	" p. 43.
<i>Uromyces Pontederiae</i> Ger.	" " "	1875, p. 31.
<i>Uromyces Arisæmæ</i> Chk.	" " "	" p. 32.

UROMYCES LESPEDEZÆ Schw.

All our species of *Lespedezæ* are subject to the attacks of this fungus. The form that occurs on *L. capitata* usually has the spores and their pedicels a little longer than in the other forms and it was reported as distinct under the name *U. macrospora* B. & C., but I am now satisfied that it is unworthy of specific distinction. The form on

L. hirta was first described by Schweinitz as *Puccinia Lespedeza-polystachiae*, but afterwards, finding this fungus more abundant on *L. violacea*, he changed the name to *Puccinia Lespedeza-violacea*. The fungus has for many years been referred to the genus *Uromyces* to which it properly belongs.

The same author also published a fungus which he found on *L. procumbens*, giving it the name *Puccinia Lespedeza-procumbentis*, and describing the spores as having a distinct septum after the manner of true *Puccinia* spores. This *Puccinia* does not appear to have been found by subsequent collectors, but the same *Uromyces* that occurs on other *Lespedeza* is often found on *L. procumbens* also, and is sometimes designated as *Uromyces Lespedeza-procumbentis* Schw., though this designation is wholly unwarranted by the description of Schweinitz's fungus. Inasmuch as the *Uromyces* is common to all our *Lespedeza* it seems best to drop that part of its trivial name that implies a specific limitation to its habitat and write *Uromyces Lespedeza* instead of *U. Lespedeza-violacea*.

UROMYCES PYRIFORMIS Ck.

As this fungus was reported without description, the following characters, kindly furnished by Dr. Cooke, are now given :

Amphigenous, erumpent; sori linear, sometimes confluent, rather pulverulent, purple-brown, margined by the fissured cuticle; pseudo-spores pyriform, deep-brown, epispore thickened above; pedicels rather short, thick, persistent, colored in the upper portion.

On *Acorus Calamus*.

The species is very closely allied to *U. Sparganii*, but appears to differ in habit.

PILEOLARIA BREVIPES B. & R.

This occurs with us on both sides of the leaves of *Rhus Toxicodendron*, and is sometimes found associated with *Uredo Toxicodendri* B. & R., which is probably its *Uredo*-form. I suppose the latter fungus to be the one described in Grevillea 1874, p. 56, as *Uromyces Toxicodendri* B. & R., although it does not well agree with the generic character of *Uromyces* for the pedicels are by no means *permanent*, since it is difficult to find one attached even to an immature spore. In this respect it is nearer *Trichobasis*, as a species of which it was formerly reported.

PEZIZA ANOMALA Pers.

This is now generally admitted to be a species of *Solenia*. Some European mycologists consider it the same as *S. ochracea*, others regard it as distinct. The two are kept separate by Fries in his new edition of *Epieris*, and I am disposed to follow this arrangement, for so far as my observation goes they differ constantly in the color and shape of the tubes. *S. anomala* has also a tendency with us to grow in tufts, which I have not seen in *S. ochracea*.

PEZIZA SOLENIA *Pk.*

One author has referred this species to *Peziza Eupatorii* Schw. In establishing the species I depended upon the accuracy of Schweinitz's description, and in justification of my present opinion of the validity of it I quote the full description of *P. Eupatorii*, italicizing those parts not applicable to *P. Solenia*.

"*P. EUPATORII* L. v. s., *versus radices in maximis caulibus emortuis Eupatorii purpurei et maculati*, Bethl.

P. gregaria, *cupulis bi-vel tri-linearibus, madefactis explanatis, disco subconvexo, margine fere oblitterato*. Siccitate connivens, sed non clausa, est hæc pezizula *rufo-carnea*, extus pilis nigrofuscis apice albescentibus *fasciculatim* obsita."

P. Solenia is not collected near the roots of the stems, but occurs more or less abundantly all along them even to the upper part. I have seen it on stems of *Eupatorium ageratooides* only, never on *E. purpureum* or its variety *maculatum*. The cups, instead of being two or three lines, are less than one-fourth of one line broad. The largest cups that I have seen do not exceed this measurement even when moist. In the moist state the cups become somewhat swollen but they assume no shape that could be called "explanate" or flattened. Even after long soaking the mouth still remains small and contracted, the disk, instead of being "subconvex," is still deeply concave, and to say that the margin was "almost obliterated" would be very far from the truth. The flesh and hymenium are whitish and the hairs are not fasciculate. Thus it appears that our plant differs in almost every respect from the description of *P. Eupatorii*; in habit, habitat, size, shape, color of flesh, etc., agreeing only in being connivent in dryness and in having an external covering of similarly colored hairs. Unfortunately, Schweinitz did not describe the fruit of his species so that the comparison can be carried no farther. But it does not seem necessary. No ordinary degree of variability in the species and no reasonable allowance for mistakes in the description would harmonize so many and so great discrepancies.

HELOTIUM THUJINUM *Pk.*

This is thought by some to be the same as *Peziza cupressina*, and doubtless there is a close resemblance between them. Had the latter plant been placed in the genus *Helotium* instead of *Peziza*, I should have regarded them as one species myself.

SPHÆRIA VERBASICOLA *Schw.*

I have never seen this plant bearing the fruit of a *Sphæria*, but have seen the perithecia filled with a multitude of small elliptical hyaline spores .00016'—.00018' long. The species should therefore be considered a *Phoma* until it is found with the fruit of a *Sphæria*.

SPHÆRIA SARRACENIA *Schw.*

Fertile specimens of this plant indicate that it belongs to the genus *Sphærella*.

SPHÆRIA SPINA *Schw.*

This plant, which was formerly reported under the name *Sphaeronema Spina*, has recently been characterized by Dr. Berkeley as having very small globose spores. The plant which we had regarded as belonging to this species (Schweinitz gives no description of the spores), has spores quite different and must be described as distinct.

SPHERONEMA FRAXINI *n. sp.*

Perithecia nestling in the inner bark, covered by the epidermis which is pierced or ruptured by the long black rigid spiniform ostiola; globule whitish; spores long, slender, curved or flexuous, gradually tapering to a point at each end, generally multinucleate, colorless, .002'-.0025' long.

Dead branches of ash, *Fraxinus Americana*.

The long rigid ostiola render the branch prickly to the touch. The fungus is sometimes found intermingled with *Tympanis Fraxini* of which it may be a condition.

(6.)

PARASITIC FUNGI OF NEW YORK AND THEIR
SUPPORTING PLANTS.

But few species of the first great family of fungi, the HYMENOMYCETES, are inhabitants of living plants. A single species and the members of a single anomalous genus comprise all with such a habitat that have hitherto been found within our limits. The species of *Exobasidium* attack and transform the buds and leaves of Ericaceous plants into soft gall-like swellings or excrecences. It is not known that they actually kill the plants they attack.

<i>Fungus.</i>	<i>Supporting plant.</i>
<i>Solenia filicina</i> <i>Pk.</i>	<i>Osmunda cinnamomea</i> .
<i>Exobasidium Azaleæ</i> <i>Pk.</i>	<i>Azalea nudiflora</i> .
<i>E. Andromedæ</i> <i>Pk.</i>	<i>Andromeda ligustrina</i> .
<i>E. Cassandræ</i> <i>Pk.</i>	<i>Cassandra calyculata</i> .

Of the second family, the GASTEROMYCETES, probably no member is strictly an inhabitant of living plants though several species occur on both living and dead plants. *Stemonitis herbatica* has as yet been detected only on living leaves and grass, but I do not think its habitat is thus limited.

The third family, the CONTOMYCETES, doubtless furnishes more fungi

inimical to living plants than all the others together. All the species of the three orders Pucciniæ, Cæomacei and Æcidiacei find their dwelling place on such plants. They are popularly known by the names Rust, Brand, Smut and Cluster cups. Many of them have a dual form but usually both forms occur on the same plant. In such cases only the second or principal form is given. In *Phragmidium* the spores have a permanent pedicel and two to ten septa according to the species. The color of the spores is blackish-brown or black. They grow on the stems or leaves. In the earlier condition the spores are simple and yellow or orange. These early forms constituted the genus *Leckythea*.

<i>Phragmidium speciosum Fr</i>	Rose stems.
<i>P. mucronatum Lk.</i>	Rose leaves.
<i>P. gracile Grev</i>	<i>Rubus odoratus</i> .
<i>P. obtusum Lk</i>	<i>Potentilla Canadensis</i> .
<i>Triphragmium clavellum Berk</i>	<i>Aralia nudicaulis</i> .

In *Puccinia* the spores have a permanent pedicel and a single transverse septum. They grow in dense sori or masses of a rusty-brown, blackish-brown or black color. These masses are usually dot-like and are scattered uniformly over the leaves or are collected in clusters on more or less discolored spots. The earlier forms of the species have the spores simple and were formerly grouped in the genus *Trichobasis*.

<i>Puccinia pulchella Pk</i>	<i>Ribes prostratum</i> .
<i>P. Prunorum Lk.</i>	<i>Prunus serotina</i> .
<i>P. Anemones Pers.</i>	{ <i>Anemone nemorosa</i> .
	{ <i>Thalictrum dioicum</i> .
	{ <i>T. Cornuti</i> .
<i>P. solida Schw</i>	{ <i>Anemone Virginiana</i> .
	{ <i>A. Pennsylvanica</i> .
<i>P. Calthæ Lk</i>	<i>Caltha palustris</i> .
<i>P. aculeata Schw</i>	<i>Podophyllum peltatum</i> .
<i>P. Violarum Lk</i>	Violet leaves.
<i>P. Lychnidearum Lk</i>	<i>Dianthus</i> leaves.
<i>P. Mariæ-Wilsoni Clinton</i>	<i>Claytonia Caroliniana</i> .
<i>P. Noli-tangeris Cd</i>	<i>Impatiens fulva</i> .
<i>P. Pyrolæ Ck</i>	<i>Polygala paucifolia</i> .
<i>P. Waldsteiniae Curt</i>	<i>Waldsteinia fragarioides</i> .
<i>P. tripustulata Pk</i>	<i>Rubus villosus</i> .
<i>P. Peckiana Howe</i>	{ <i>R. occidentalis</i> .
	{ <i>R. strigosus</i> .
<i>P. curtipes Howe</i>	<i>Saxifraga Pennsylvanica</i> .
<i>P. sprete Pk</i>	<i>Tiarella cordifolia</i> .
<i>P. Circææ Pers</i>	{ <i>Circæa alpina</i> .
	{ <i>C. Lutetiana</i> .
<i>P. bullaria Lk</i>	<i>Sanicle</i> stems.

<i>Puccinia Umbelliferarum DC.</i>	<i>Archangelica atropurpurea.</i>
<i>P. Cryptotaeniae Pk</i>	<i>Cryptotaenia Canadensis.</i>
<i>P. Osmorrhizae C. & P.</i>	{ <i>Osmorrhiza brevistylis.</i> <i>O. longistylis.</i>
<i>P. porphyrogenita Curt.</i>	
<i>P. Galionum Lk</i>	<i>Cornus Canadensis.</i>
<i>P. Asteris Schw</i>	{ <i>Galium triflorum.</i> <i>Aster macrophyllus.</i>
<i>P. purpurascens C. & P</i>	
<i>P. Gerardii Pk</i>	<i>A. cordifolius.</i>
<i>P. Virganreae Lib.</i>	<i>A. acuminatus.</i>
<i>P. Xanthii Schw</i>	<i>A. simplex.</i>
<i>P. Helianthi Schw</i>	<i>Solidago altissima.</i>
<i>P. investita Schw</i>	<i>Xanthium Strumarium.</i>
<i>P. Cirsii Lasch</i>	{ <i>Helianthus divaricatus.</i> <i>Gnaphalium polycephalum.</i>
<i>P. variabilis Gree.</i>	
<i>P. Lobeliae Ger.</i>	<i>Cirsium lanceolatum.</i>
<i>P. Dayi Clinton</i>	{ <i>C. arvense.</i> <i>Taraxacum Dens-leonis.</i>
<i>P. Clintonii Pk</i>	
<i>P. Menthae Pers.</i>	<i>Lobelia syphilitica.</i>
<i>P. Physostegiae P. & C.</i>	<i>Lysimachia ciliata.</i>
<i>P. Convolvuli B. & C</i>	<i>Pedicularis Canadensis.</i>
<i>P. Gentianae Strauss</i>	{ <i>Mentha Canadensis.</i> <i>Monarda fistulosa.</i> <i>Hedeoma pulegioides.</i>
<i>P. amphibii Fekl</i>	
<i>P. Smilacis Schw</i>	
<i>P. Veratri Niessl</i>	<i>Physostegia Virginiana.</i>
<i>P. mesomajalis B. & C.</i>	<i>Calystegia Sepium.</i>
<i>P. obtecta Pk</i>	<i>Gentiana Andrewsii.</i>
<i>P. angustata Pk</i>	{ <i>Polygonum amphibium.</i> <i>P. Pennsylvanicum.</i> <i>P. Virginianum.</i>
<i>P. striola Lk</i>	
<i>P. caricina DC</i>	
<i>P. Sorghi Schw</i>	<i>Smilax rotundifolia.</i>
<i>P. arundinacea Hedw</i>	<i>Veratrum viride.</i>
<i>P. Graminis Pers.</i>	<i>Clintonia borealis.</i>
<i>P. coronata Cl</i>	{ <i>Scirpus validus.</i> <i>S. pungens.</i> <i>S. Eriophorum.</i>
<i>P. linearis Pk</i>	
	<i>Carex crinita.</i>
	<i>C. stricta.</i>
	<i>Zea Mays.</i>
	<i>Phragmites communis.</i>
	<i>Grasses and cereals.</i>
	<i>Avena sativa.</i>
	<i>Grasses.</i>

In *Gymnosporangium* and *Podisoma* the spores are pedicellate and uniseptate as in *Puccinia*, but their color is a yellowish-orange when moist, and the mass is then much swollen and tremelloid or gelatinous. The species of *Podisoma* form those globose excrescences on the Juniper that are known as "*Cedar apples*."

Gymnosporangium Juniperi <i>Lk.</i>	Juniperus Virginiana.
G. clavipes <i>C. & P.</i>	" "
Podisoma macropus <i>Schw.</i>	" "
P. fuscum <i>Duby</i>	" "

The species of *Uromyces* resemble those of *Puccinia* in every respect, except that the spores are simple.

Uromyces triquetrus <i>Ck.</i>	{ Hypericum perforatum. H. mutilum. Elodes Virginica.
U. Claytoniæ <i>C. & P.</i>	Claytonia Caroliniana.
U. appendiculosus <i>Lev.</i>	Pisum sativum.
U. apiculosus <i>Lev.</i>	Trifolium repens.
U. Phaseoli <i>Strauss.</i>	Phaseolus diversifolius.
U. Lespedezæ <i>Schw.</i>	Lespedeza leaves.
U. solidus <i>B. & C.</i>	Desmodium leaves.
U. Limonii <i>Lev.</i>	Statice Limonium.
U. Polygoni <i>Fekl.</i>	Polygonum erectum.
U. Euphorbiæ <i>C. & P.</i>	{ Euphorbia maculata. E. hypericifolia.
U. Peltandræ <i>Howe.</i>	{ Peltandra Virginica. Arisæma triphyllum.
U. pyriformis <i>Ck.</i>	Acorus Calamus.
U. Sparganii <i>C. & P.</i>	Sparganium eurycarpum.
U. Howei <i>Pk.</i>	Asclepias cornuti.
U. Liliæ <i>Clinton.</i>	Lilium Canadense.
U. Junci <i>Schw.</i>	Juncus effusus.
U. Caricis <i>Pk.</i>	Carex stricta.
U. Graminum <i>Ck.</i>	Brizopyrum spicatum.
Pileolaria brevipes <i>B. & R.</i>	Rhus Toxicodendron.
Ravenelia glandulæformis <i>B. & C.</i>	Tephrosia Virginiana.

In *Ustilago* the spores are simple, without permanent pedicels and more or less globose in form. They are black or blackish-brown and form dusty smutty masses, most often in the ovaries or floral organs. They thus destroy the seeds of the host plant and interfere with its propagation.

Ustilago ntrienlosa <i>Tul.</i>	Polygonum Pennsylvanicum.
U. Candollei <i>Tul.</i>	P. sagittatum.
U. Erythronii <i>Clinton.</i>	Erythronium Americanum.
U. Junci <i>Schw.</i>	Juncus tenuis.
U. Montagnei <i>Tul.</i>	Rhynchospora alba.
U. Mont. v. major <i>Desm.</i>	R. glomerata.
U. urceolorum <i>Tul.</i>	{ Carex Pennsylvanica. C. umbellata.
U. Maydis <i>Cd.</i>	Zea Mays.
U. longissima <i>Tul.</i>	Glyceria aquatica.
U. neglecta <i>Niessl.</i>	Setaria glauca.
U. Syntherismæ <i>Schw.</i>	Cenchrus tribuloides.

Ustilago Carbo <i>Tul</i>	{	Triticum vulgare.
		Avena sativa.
Urocystis pompholygodes <i>Schl</i>	{	Hepatica acutiloba.
		Anemone Pennsylvanica.
U. occulta <i>Preuss</i>		Grass leaves.
Geminella foliicola <i>Schroet</i>		Carex Pennsylvanica.
Protomyces Menyanthis <i>De B</i>		Menyanthes trifoliata.
P. Erythronii <i>Pk</i>		Erythronium Americanum.
Coleosporium ochraceum <i>Bon</i>		Agrimonia Eupatoria.

In *Melampsora* as in *Phragmidium* the earlier state was referred to the genus *Leeythea*. The mature *Melampsora* is seldom developed before the supporting leaf has fallen.

<i>Melampsora salicina</i> <i>Lev</i>	Willow leaves.
<i>M. populina</i> <i>Lev</i>	Poplar leaves.

Many of the species of *Trichobasis* are now known to be earlier forms of species of *Puccinia*. The following have not yet been traced to their later state.

Trichobasis <i>Pyrolæ</i> <i>Berk</i>	{	<i>Pyrola rotundifolia</i> .
		<i>P. secunda</i> .
<i>T. Iridicola</i> <i>Pk</i>		<i>Iris versicolor</i> .

In *Uredo* the spores are simple, usually globose and collected in yellow or orange-colored masses which are mostly small and dot-like. One species, *U. luminata*, is very detrimental to raspberry and blackberry plants.

Uredo Caryophyllacearum <i>Johnst</i> ...	Caryophyllaceæ.
U. luminata <i>Schw</i>	{ R. villosus. R. Canadensis. R. occidentalis. R. strigosus.
U. effusa <i>Strauss</i>	Rose leaves.
U. Solidaginis <i>Schw</i>	Solidago and Aster leaves.
U. pustulata <i>Pers</i>	{ Epilobium hirsutum. E. angustifolium.
U. Vacciniorum <i>Pers</i>	Vaccinium corymbosum.
U. Azaleæ <i>Schw</i>	Azalea nudiflora.
U. Ledicola <i>Pk</i>	Ledum latifolium.
U. Empetri <i>DC</i>	Empetrum nigrum.
U. Smilacis <i>Schw</i>	Lilium Canadense.
U. Filicium <i>Desm</i>	Cystopteris fragilis.
U. Aspidictus <i>Pk</i>	Phegopteris Dryopteris.
U. Peckii <i>Thum</i>	Amphicarpæ monoica.

In *Cystopus* the spores are white, hence these fungi are sometimes called white rusts.

<i>Cystopus candidus</i> <i>Lev</i>	{	Capsella Bursa-pastoris.
		Sisymbrium officinale.
		Lepidium Virginicum.
		Dentaria diphylla etc.
<i>C. cubicus</i> <i>Str</i>		Tragopogon porrifolius.
<i>C. Portulacæ</i> <i>DC</i>		Portulaca oleracea.
<i>C. spinulosus</i> <i>DeB</i>		Cirsium arvense.
<i>C. Bliti</i> <i>Biv</i>		Amarantus retroflexus.

The *Æcidia* or Cluster-cup fungi consist essentially of small cup-shaped or cylindrical receptacles which contain the mostly yellow or orange-colored simple spores. These cups are sometimes scattered over the leaves but they are more frequently clustered together on discolored spots.

In *Ræstelia* they are lacerated and the spores brownish, except in *R. aurantiaca* in which they are orange.

In *Æcidium* the cups are scalloped or toothed on the margin.

In *Peridermium* they rupture irregularly and occur only on Coniferae.

<i>Ræstelia lacerata</i> <i>Sow</i>	{	Amelanchier Canadensis.
		Cratægus (various species).
<i>R. cornuta</i> <i>Tul</i>	{	Amelanchier Canadensis.
		Pyrus Americana.
<i>R. aurantiaca</i> <i>Pk</i>	{	Amelanchier Canadensis.
		Cratægus (various species).
<i>Æcidium clematitatum</i> <i>Schw</i>		Clematis Virginiana.
<i>Æ. quadrifidum</i> <i>DC</i>		Anemone nemorosa.
<i>Æ. Ranunculi</i> <i>Schw</i>		Ranunculus abortivus.
<i>Æ. Ranunculacearum</i> <i>DC</i>		Ranunculaceæ.
<i>Æ. Thaliætri</i> <i>Grev</i>		"
<i>Æ. Calthæ</i> <i>Grev</i>		Caltha palustris.
<i>Æ. Berberidis</i> <i>Pers</i>		Berberis vulgaris.
<i>Æ. podophyllatum</i> <i>Schw</i>		Podophyllum peltatum.
<i>Æ. Violæ</i> <i>Schum</i>		Viola pubescens.
<i>Æ. Mariæ-Wilsoni</i> <i>Pk</i>		V. cucullata.
<i>Æ. hypericatum</i> <i>Schw</i>		Hypericum mntilum.
<i>Æ. claytoniatum</i> <i>Schw</i>		Claytonia Caroliniana.
<i>Æ. Geranii</i> <i>DC</i>		Geranium maculatum.
<i>Æ. impatientatum</i> <i>Schw</i>		Impatiens pallida.
<i>Æ. crassum</i> <i>Pers</i>		Rhamnus catharticus.
<i>Æ. Orobi</i> <i>DC</i>		Trifolium repens.
<i>Æ. album</i> <i>Clinton</i>		Vicia Americana.
<i>Æ. Grossulariæ</i> <i>DC</i>		Ribes leaves.
<i>Æ. Epilobii</i> <i>DC</i>		Ænothera biennis.
<i>Æ. Ænotheræ</i> <i>Pk</i>		" "

<i>Æcidium Nesææ Ger.</i>	<i>Nesæa verticillata.</i>
<i>Æ. Osmorrhizæ Pk.</i>	<i>Osmorrhiza brevistylis.</i>
<i>Æ. sambuciatum Schw</i>	<i>Sambucus Canadensis.</i>
<i>Æ. honstoniatum Schw.</i>	{ <i>Houstonia longifolia.</i>
	{ <i>H. cerulea.</i>
<i>Æ. Compositarum Mart</i>	<i>Compositæ.</i>
<i>Æ. asteratum Schw</i>	<i>Aster cordifolius.</i>
<i>Æ. erigerontatum Schw</i>	{ <i>Erigeron annuum.</i>
	{ <i>E. bellidifolium.</i>
<i>Æ. tracheliifoliatum Schw.</i> ...	<i>Helianthus divaricatus.</i>
<i>Æ. gnaphaliatum Schw.</i>	<i>Gnaphalium polyccephalum.</i>
<i>Æ. tenue Schw.</i>	<i>Eupatorium ageratoides.</i>
<i>Æ. statice Desm</i>	<i>Statice Limonium.</i>
<i>Æ. lysimachiatum Lk</i>	<i>Lysimachia quadrifolia.</i>
<i>Æ. Chelonis Ger</i>	<i>Chelone glabra.</i>
<i>Æ. penstemoniatum Schw</i>	<i>Penstemon pubescens.</i>
<i>Æ. Gerardiæ Pk</i>	<i>Gerardia quercifolia.</i>
<i>Æ. Menthæ DC.</i>	<i>Labiatae.</i>
<i>Æ. Lycopi Ger.</i>	<i>Lycopus Europæus.</i>
<i>Æ. Hydrophylli Pk</i>	<i>Hydrophyllum Canadense.</i>
<i>Æ. dubium Clinton</i>	<i>Calystegia Sepium.</i>
<i>Æ. Fraxini Schw</i>	<i>Fraxinus Americana.</i>
<i>Æ. Allenii Clinton</i>	<i>Shepherdia Canadensis.</i>
<i>Æ. pustulatum Curt</i>	<i>Comandra umbellata.</i>
<i>Æ. hydroideum B. & C.</i>	<i>Dirca palustris.</i>
<i>Æ. Euphorbiæ Pers</i>	<i>Euphorbia hypericifolia.</i>
<i>Æ. Urticæ DC.</i>	<i>Urtica dioica.</i>
<i>Æ. Convallariæ Schum</i>	<i>Lilium Canadense.</i>
<i>Æ. myricatum Schw</i>	<i>Myrica cerifera.</i>
<i>Æ. dracontiatum Schw</i>	{ <i>Arisæma Dracontium.</i>
	{ <i>A. triphyllum.</i>
<i>Æ. aroidatum Schw.</i>	<i>Peltandra Virginica.</i>
<i>Æ. Iridis Ger</i>	<i>Iris versicolor.</i>
<i>Æ. macrosorum Pk</i>	<i>Smilax rotundifolia.</i>
<i>Æ. uvulariatum Schw.</i>	<i>Uvularia sessilifolia.</i>
<i>Peridermium Cerebrum Pk</i>	<i>Pinus rigida.</i>
<i>P. columnare A. & S.</i>	<i>Abies Canadensis.</i>
<i>P. elatinum A. & S.</i>	<i>A. balsamea.</i>
<i>P. balsameum Pk.</i>	<i>A. "</i>
<i>P. decolorans Pk.</i>	<i>A. nigra.</i>
<i>Graphiola Phœnicis Poit.</i>	<i>Phœnix dissectifolia.</i>

The remaining Coniomyceetes that inhabit living plants belong chiefly to the genus *Septoria*. Most of these occur on dry or discolored spots on the leaves.

<i>Phoma Mariæ Clinton</i>	<i>Lonicera flava.</i>
<i>Sphaeropsis Wilsoni Clinton</i>	<i>L. "</i>
<i>Hendersonia Peekii Clinton</i>	<i>L. "</i>
<i>H. Mariæ Clinton</i>	<i>L. "</i>

Melasmia alnea <i>Lev</i>	Alnus serrulata.
Asteroma Rosæ <i>DC</i>	Rose leaves.
Septoria Coptidis <i>B. & C</i>	Coptis trifolia.
S. Rhoidis <i>B. & C</i>	Rhus typhina.
S. Toxicodendri <i>Curt</i>	R. Toxicodendron.
S. ampelina <i>B. & C</i>	Vitis aestivalis.
S. destruens <i>Desm</i>	Malva rotundifolia.
S. sanguinea <i>Desm</i>	Prunus serotina.
S. cerasina <i>Pk</i>	P. " "
S. Hippocastani <i>B. & Br</i>	Æsculus Hippocastanum.
S. acerina <i>Pk</i>	Acer Pennsylvanica.
S. Polygalæ <i>P. & C</i>	Polygala paucifolia.
S. emaculata <i>P. & C</i>	Lathyrus palustris.
S. Rubi <i>B. & C</i> ...	Rubus Canadensis.
S. Oenotheræ <i>B. & C</i>	Oenothera biennis.
S. maculosa <i>Ger</i>	Cuphea viscosissima.
S. sambucina <i>Pk</i>	Sambucus pubens.
S. Erigerontis <i>Pk</i>	Erigeron annuum.
S. Nabali <i>B. & C</i>	Nabalus albus.
S. Lobeliæ <i>Pk</i>	Lobelia spicata.
S. difformis <i>C. & P</i>	Vaccinium Pennsylvanicum.
S. Kalmicola <i>Schw</i>	Kalmia latifolia.
S. Verbenæ <i>D. & R</i>	Verbena hastata.
S. Verbascicola <i>B. & C</i>	Verbascum Blattaria.
S. Scrophulariæ <i>Pk</i>	Scrophularia nodosa.
S. Wilsoni <i>Clinton</i>	Chelone glabra.
S. Polygonorum <i>Desm</i>	Polygonum Persicaria.
S. Ulmi <i>Kze</i>	Ulmus Americana.
S. ochroleuca <i>B. & C</i>	Castanea vesca.
S. viride tingens <i>Curt</i>	Allium tricoccum.
S. mirabilis <i>Pk</i>	Onoclea sensibilis.
Vermicularia concentrica <i>P. & C</i> ...	{ Trillium erythrocarpum. Viola rotundifolia.
Pestalozzia Guepini <i>Desm</i>	
P. Mariæ <i>Clinton</i>	Rhododendron maximum.
Coryneum triseptatum <i>Pk</i>	R. maximum.

The fourth family, the *HYPHOMYCETES*, molds or filamentous fungi, contains comparatively few noxious species but among these few are some of the most pernicious foes of our cultivated plants. In the genus *Peronospora* we find such baneful pests as the potato mold, spinach mold, lettuce mold and onion mold. *Oidium monilioides* Lk. which occurs on grass leaves and *Oidium leucoconium* Desm. which attacks rose leaves are regarded as conditions respectively of *Erysiphe graminis* and *Sphærotheca pannosa*, the second form of which has not yet been detected with us.

<i>Cercospora Callæ P. & C.</i>	<i>Calla palustris.</i>
<i>Peronospora pygmaea Ung</i>	<i>Anemone Pennsylvanica.</i>
<i>P. parasitica Pers</i>	<i>Cardamine rhomboidea.</i>
<i>P. Geranii Pk</i>	<i>Geranium maculatum.</i>
<i>P. obliqua Ck</i>	<i>Rumex crispus.</i>
<i>P. effusa Grev</i>	<i>Chenopodium album.</i>
<i>Ramularia Nemopanthis C. & P.</i>	<i>Nemopanthes Canadensis.</i>

In the last family, the ASCOMYCETES, we find a few groups, such as the *Perisporiacei* or mildews and the species of *Rhytisma*, inhabiting, for the most part, living leaves. But by far the greater part of this vast family find their dwelling-place on decaying substances.

In the *Perisporiacei* a white webby film usually appears on the leaf, and sometimes, as in the pea-mildew, this involves the whole plant.

* <i>Sphaerotheca Castagnei Lev</i>	{	<i>Spiraea opulifolia.</i>
	{	<i>Poterium Canadense.</i>
	{	<i>Agrimonia Eupatoria.</i>
	{	<i>Genm album.</i>
	{	<i>Bidens connata.</i>
S. <i>pruinosa C. & P</i>	{	<i>Erechtithes hieracifolia.</i>
	{	<i>Taraxacum Dens-leonis.</i>
	{	<i>Brunella vulgaris.</i>
	{	<i>Rhus glabra.</i>
	{	<i>Magnolia acuminata.</i>
	{	<i>Liriodendron Tulipifera.</i>
	{	<i>Ribes Cynosbati.</i>
	{	<i>Celastrus scandens.</i>
	{	<i>Cornus florida.</i>
	{	<i>C. paniculata.</i>
Phyllactinia guttata Lev	{	<i>C. stolonifera.</i>
	{	<i>C. circinata.</i>
	{	<i>Crataegus coccinea.</i>
	{	<i>C. Crus-galli.</i>
	{	<i>Corylus Americana.</i>
	{	<i>Castanea vesca.</i>
	{	<i>Fagus ferruginea.</i>
	{	<i>Carpinus Americana.</i>
	{	<i>Fraxinus Americana.</i>
	{	<i>Alnus serrulata.</i>
Uncinula adunca Lev	{	<i>Asclepias Cornuti.</i>
	{	<i>Salix cordata.</i>
	{	<i>S. discolor.</i>
	{	<i>Populus balsamifera.</i>
U. <i>circinata C. & P</i>	{	<i>Acer spicatum.</i>
	{	<i>A. rubrum.</i>
	{	<i>A. Pennsylvanicum.</i>
U. <i>luculenta Howe</i>	{	<i>Populus heterophylla.</i>

Uncinula macrospora <i>Pk</i>	Ulmus Americana.
U. flexuosa <i>Pk</i>	Æsculus Hippocastanum.
U. Ampelopsidis <i>Pk</i>	Ampelopsis quinquefolia.
U. Clintonii <i>Pk</i>	Tilia Americana.
U. spiralis <i>B. & C</i>	Vitis æstivalis.
U. geniculata <i>Ger</i>	Morus rubra.
U. parvula <i>C. & P</i>	Celtis occidentalis.
Podosphæra Kunzei <i>Lev</i>	{ Prunus Cerasus.
	{ P. Virginiana.
	{ Spiræa tomentosa.
	{ S. salicifolia.
	{ Cratægus coccinea.
P. biuncinata <i>C. & P</i>	Hamamelis Virginiana.
Microsphæra Menispermii <i>Howe</i>	Menispermum Canadense.
M. Russellii <i>Clinton</i>	Oxalis stricta.
M. diffusa <i>C. & P</i>	Desmodium Canadense.
M. holosericea <i>Lev</i>	Astragalus Cooperi.
M. pulchra <i>C. & P</i>	Cornus alternifolia.
M. Dubyi <i>Lev</i>	Lonicera parviflora.
M. Symphoricarpi <i>Howe</i>	Symphoricarpus racemosus.
M. Van Bruntiana <i>Ger</i>	Sambucus Canadensis.
M. Viburni <i>Schw</i>	{ Viburnum Lentago.
	{ V. dentatum.
M. Friesii <i>Lev</i>	Syringa vulgaris.
M. Fr. v. Castaneæ <i>C. & P</i>	Castanea vesca.
M. Fr. v. Vaccinii <i>C. & P</i>	Vaccinium corymbosum.
M. Vaccinii <i>Pk</i>	V. vacillans.
M. Platani <i>Howe</i>	Platanus occidentalis.
M. extensa <i>C. & P</i>	{ Quercus rubra.
	{ Q. alba.
M. abbreviata <i>Pk</i>	{ Q. bicolor.
	{ Fagus ferruginea.
M. pencillata <i>Lev</i>	{ Corylus rostrata.
	{ Alnus serrulata.
M. Alni <i>Tul</i>	{ A. incana.
M. densissima <i>Schw</i>	Quercus tinctoria.

The last species I have seen on dead leaves only, but it probably attacks them when living.

		{	Ranunculus acris.
Erysiphe communis <i>Schl</i>		{	R. abortivus.
			Thalictrum Cornuti.
			T. anemonoides.
E. Martii <i>Lk</i>		{	Pisum sativum.
			Amphicarpæa monoica.
			Baptisia tinctoria.
			Lupinus perennis.
E. Euphorbiæ <i>Pk</i> .. .			Euphorbia hypericifolia.

Erysiphe lamprocarpa <i>Lev.</i>	{	Artemisia trifida.
		Inula Helenium.
		Aster (various species).
		Solidago (various species).
		Phlox paniculata.
		Verbena hastata.
		Chelone glabra.
		Stachys aspera.
		Galeopsis tetrahit.
	{	Hydrophyllum Canadense.
		Scutellaria lateriflora.

The species of *Rhytisma*, and of *Dothidea* in part, form black blotches or protuberances on the leaves. Frequently they do not perfect their fruit till after the leaf has fallen. *R. Soliduginis* Schw. and *R. Asteris* Schw. are only insect galls, and of *R. Monogramma* B. & C., I have seen no good specimens.

Peziza Dehnii <i>Rabh.</i>	Potentilla argentea.
Epichloe typhina <i>Berk</i>	Carex stems.
Rhytisma acerinum <i>Fr</i>	{ Acer saccharinum.
	{ A. rubrum.
R. punctatum <i>Fr</i>	{ A. spicatum.
	{ A. Pennsylvanicum.
R. Blakei <i>Curt</i>	Rubus hispidus.
R. Andromedæ <i>Fr</i>	Andromeda polifolia.
R. decolorans <i>Schw</i>	A. ligustrina.
R. Pruni <i>Schw</i>	Prunus verticillatus.
R. Canadensis <i>Schw</i>	Nemopanthes Canadensis.
R. salicinum <i>Fr</i>	{ Salix discolor.
	{ S. humilis.
	{ S. Cutleri.
Hypoderma lineare <i>Pk.</i>	Pinus Strobus.
Dothidea Ulmi <i>Fr</i>	Ulmus Americana.
D. Lespedezæ <i>Schw</i>	Lespedeza capitata.
D. Trifolii <i>Fr</i>	Trifolium repens.
D. Dalibardæ <i>Pk</i>	Dalibarda repens.
D. Graminis <i>Fr</i>	Grass leaves.
D. vorax <i>B. & C</i>	" "
D. Pteridis <i>Fr</i>	Pteris aquilina.
Melogramma superficialis <i>P. & C</i>	Pyrus Americana.
Diatrype anomala <i>Pk</i>	Corylus stems.
Sphæria morbosa <i>Schw</i>	{ Prunus Pennsylvanica.
	{ P. Virginiana.
	{ P. Cerasus.
	{ P. domestica.
S. Collinsii <i>Schw</i>	Amelanchier Canadensis.
S. fimbriata <i>Pers</i>	Carpinus Americana.
S. Coryli <i>Batsch</i>	Corylus leaves.

Venturia pulchella <i>C. & P</i>	Cassandra calyculata.
V. compacta <i>Pk</i>	Vaccinium macrocarpum.
V. Kalmiæ <i>Pk</i>	Kalmia glauca.
Stigmatea Robertiani <i>Fr</i>	Geranium Robertianum.

In closing this report, grateful acknowledgments are rendered to those botanists whose names appear in the preceding pages, for their kind aid and coöperation in the investigation of our flora, and for their generous contributions of specimens. When no name is added to the station or stations herein given, the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January* 11, 1876.

EXPLANATION OF PLATES.

EXPLANATION OF PLATE I.

AGARICUS PUBESCENTIPES Peck.

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- Fig. 1. A small plant.
Fig. 2. A plant of medium size, showing the lamellae.
Fig. 3. Four spores $\times 400$.

CHONDRIODERMA MICHELII Lib.

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- Fig. 4. Four plants attached to a piece of grass leaf.
Fig. 5. Two plants enlarged, one showing the upper, the other the under surface of the flattened peridium.
Fig. 6. Four spores $\times 400$.

MELANCONIUM PALLIDUM Peck.

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- Fig. 7. Piece of a branch bearing the fungus; the epidermis removed from one end.
Fig. 8. Six spores $\times 400$.

CLASTERISPORIUM UNCINATUM Clinton.

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- Fig. 9. Piece of a leaf bearing the fungus.
Fig. 10. Three spores $\times 400$.

USTILAGO MONTAGNEI Tul. var. *MAJOR* Desm.

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- Fig. 11. Upper part of a plant, with the heads affected by the fungus.
Fig. 12. Five spores $\times 400$.

PEZIZA IMPERIALIS Peck.

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- Fig. 13. A small plant.
Fig. 14. A larger plant.
Fig. 15. A paraphysis and an ascus containing spores $\times 400$.

GEOGLOSSUM VELUTIPES Peck.

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- Fig. 16. Two plants of ordinary size.
Fig. 17. A single hair $\times 400$.
Fig. 18. Two paraphyses and an ascus containing spores $\times 400$.
Fig. 19. Three spores $\times 400$.

GEOGLOSSUM NIGRITUM Pers.

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- Fig. 20. Two plants of ordinary size.
Fig. 21. Two paraphyses and an ascus containing spores $\times 400$.
Fig. 22. Two spores $\times 400$.



EXPLANATION OF PLATE II.

HYGROPHORUS SPECIOSUS Peck.

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- Fig. 1. A small plant, with the pileus not fully expanded.
Fig. 2. A plant of ordinary size, with the pileus expanded.
Fig. 3. Vertical section of a pileus.
Fig. 4. Transverse section of a stem.
Fig. 5. Four spores $\times 400$.

PECKIA CLINTONII Peck.

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- Fig. 6. A leaf bearing the fungus.
Fig. 7. A perithecium and fragment of leaf enlarged.
Fig. 8. Three strings of spores $\times 400$.
Fig. 9. Six spores $\times 400$.

PEZIZA BRONCA Peck.

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- Fig. 10. A plant of ordinary size.
Fig. 11. A paraphysis and an ascus containing spores $\times 400$.
Fig. 12. Three spores $\times 400$.

LYCOPERDON CONSTELLATUM Fr.

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- Fig. 13. A small plant; part of the spines removed, to show the reticulated surface.
Fig. 14. Five spores $\times 400$.

SPHERELLA COLORATA Peck.

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- Fig. 15. A leaf bearing the fungus.
Fig. 16. Two asci containing spores $\times 400$.
Fig. 17. Four spores $\times 400$.

HELMINTHOSPORIUM EPISPHERICUM Cooke & Peck.

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- Fig. 18. Piece of a branch bearing the fungus.
Fig. 19. Two flocci $\times 400$.
Fig. 20. Two spores $\times 400$.

UALSA CINCTULA Cooke & Peck.

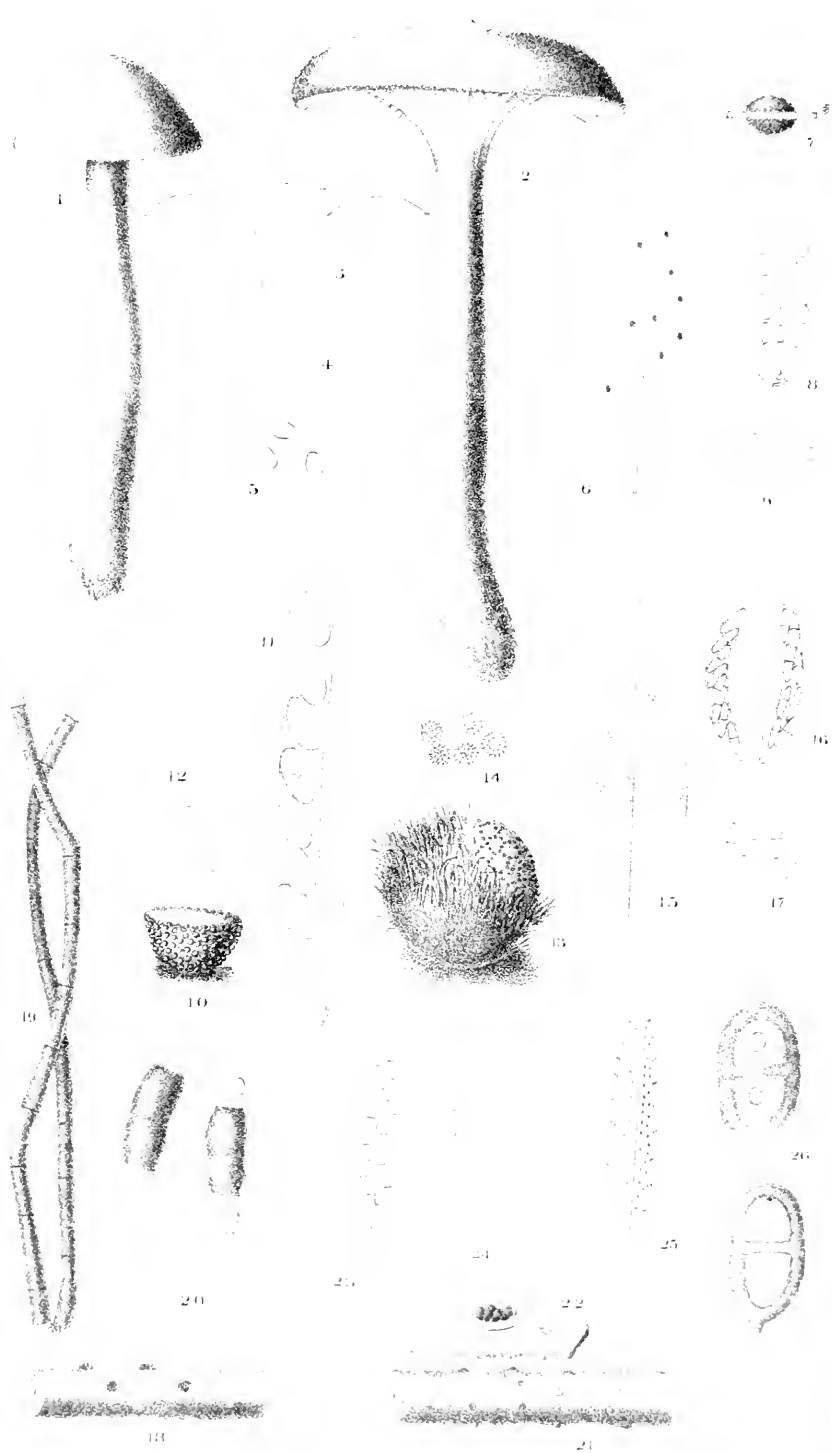
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- Fig. 21. Piece of a branch bearing the fungus.
Fig. 22. A single pustule enlarged.
Fig. 23. An ascus containing spores $\times 400$.
Fig. 24. Four spores $\times 400$.

PUCCINIA PHYSOSTEGLÆ Peck & Clinton.

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- Fig. 25. A leaf bearing the fungus.
Fig. 26. Two spores $\times 400$.



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